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 15 (*pro hac vice application to be submitted*)

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17 **UNITED STATES DISTRICT COURT**
 18
DISTRICT OF NEVADA

19 CENTER FOR BIOLOGICAL DIVERSITY,
 20 GREAT BASIN RESOURCE WATCH, and
 21 WESTERN SHOSHONE DEFENSE
 22 PROJECT,

23 Plaintiffs,

24 vs.

25 DEBRA HAALAND in her official capacity
 26 as Secretary of the Interior, TRACY STONE-
 27 MANNING in her official capacity as the
 1 Director of the Bureau of Land Management,
 2 MARTHA WILLIAMS, in her official
 3 capacity as Director of the U.S. Fish and
 4 Wildlife Service, LAURA DANIEL-DAVIS,
 5 in her official capacity as Acting Deputy
 6 Secretary of the Interior, U.S. DEPARTMENT
 7 OF THE INTERIOR, BUREAU OF LAND
 8 MANAGEMENT, and U.S. FISH AND
 9 WILDLIFE SERVICE,

10 Defendants.

11 Case No:

12
**COMPLAINT FOR VACATUR,
 13 DECLARATORY RELIEF, AND
 14 INJUNCTIVE RELIEF**

1 INTRODUCTION

2 1. Plaintiffs, the Center for Biological Diversity (the Center); Great Basin Resource
3 Watch (GBRW), and the Western Shoshone Defense Project (WSDP) file this suit for vacatur, and
4 for equitable, declaratory and injunctive relief under the Endangered Species Act (ESA), §§ 1531
5 *et. seq.*, the Administrative Procedure Act (APA), 5 U.S.C. §§ 701-706, the Federal Land Policy
6 Management Act of 1976 (FLPMA), 43 U.S.C. §§ 1701 *et seq.*, the National Environmental Policy
7 Act (NEPA), 42 U.S.C. §§ 4321 *et. seq.*, other federal laws, and their implementing regulations
8 and policies, challenging the decisions of the United States Department of the Interior (DOI), the
9 Bureau of Land Management (BLM), and the U.S. Fish and Wildlife Service (FWS) to approve
10 the Rhyolite Ridge Lithium/Boron Mine Project (Project/project or Mine/mine) and Plan of
11 Operations, a large open-pit mining project on public lands proposed by Ioneer Rhyolite Ridge,
12 LLC (Ioneer). Defendant BLM issued the Final Environmental Impact Statement (FEIS) for the
13 Project on September 19, 2024, and Defendants DOI and Daniel-Davis approved the Project in a
14 Record of Decision dated October 24, 2024. Defendant FWS issued a Biological Opinion (BiOp)
15 for the Project on September 4, 2024, which permits the Project to go forward despite its impacts
16 on threatened and endangered species.

17 2. The Project would be located in the Rhyolite Ridge area of the Silver Peak Range
18 in Esmeralda County, Nevada, on public lands managed by Defendant BLM.

19 3. Due to its location, the Project poses an existential risk to an endangered
20 wildflower—Tiehm’s buckwheat (*Eriogonum tiehmi*). Tiehm’s buckwheat is extremely rare—the
21 entire global population exists within a mere 10 acres of public lands in the Rhyolite Ridge area,
22 and efforts to locate additional populations have been wholly unsuccessful. Tiehm’s buckwheat is
23 particularly vulnerable to extinction due to its highly restricted range and specialized habitat needs.
24 The Project would completely encircle the known range of Tiehm’s buckwheat and destroy 191
25 acres of the species’ designated critical habitat. A 960-foot-deep mine pit would be excavated just
26 15 feet away from the nearest Tiehm’s buckwheat plant, and the southeastern portion of the
27 species’ critical habitat would be permanently covered by millions of tons of waste rock. The

1 threats to this vulnerable species posed by mining exploration and development have been
2 recognized by scientists and FWS alike as particularly imminent and severe, and likely to lead to
3 its extinction.

4 4. The Project would also adversely and irreparably impact several other important
5 and sensitive natural resources including groundwater, springs and wetlands, air quality, cultural
6 resources, and wildlife habitat. The Project would transform a remote and seldom-visited site in
7 the most rural county in Nevada into a bustling industrial complex covering over 7,000 acres in
8 total.

9 5. Despite the potential for significant and irreparable impacts, Defendants DOI and
10 BLM adopted a highly accelerated permitting timeline for the project, which limited opportunities
11 for environmental analysis and public participation. At the same time, the U.S. Department of
12 Energy in 2023 gave Ioneer a loan of up to \$700 million to construct the Project. In their rush to
13 complete the Project, DOI, BLM, and FWS, among other things: failed to ensure that the Project
14 will not jeopardize the continued existence of Tiehm's buckwheat or adversely modify its critical
15 habitat, as required under the ESA; failed to prevent unnecessary and undue degradation of the
16 public lands, as required under FLPMA; failed to take a "hard look" at the Project's environmental
17 impacts, as required under NEPA and FLPMA; and relied on vague, generalized, and insufficiently
18 developed minimization and mitigation measures, in violation of the ESA, NEPA and FLPMA.

19 6. DOI and BLM authorized the Project based on the unsupported assumption that
20 Ioneer holds "valid existing rights" under the 1872 Mining Law for its claims covering all Project
21 components and operations, and failed determine whether Ioneer's mining and millsite claims are
22 in fact valid, thus significantly hamstringing the agency's discretionary authority over the Project.
23 In addition, DOI and BLM failed to issue, or require, the necessary federal permits and rights-of-
24 way for ancillary mine-related infrastructure including but not limited to a 13-mile water pipeline
25 and access corridor.

26 7. For these and the related reasons addressed herein, Plaintiffs ask this Court to
27 declare that the ROD, FEIS, BiOp, and Project approvals and decisions signed and prepared by

1 DOI, BLM and FWS for the Project violate federal law. Plaintiffs ask this court to set aside/vacate
2 and remand the decisions to BLM and FWS, and enjoin any construction, operation, or
3 development of the Project, including any Project-related exploration, until the violations have
4 been corrected.

5 **JURISDICTION**

6 8. This is a suit pursuant to the ESA, APA, FLPMA, NEPA, and other federal statutes,
7 regulations and requirements. Jurisdiction over this action is conferred by 28 U.S.C. §§ 1331
8 (federal question), 2201 (declaratory relief), and 2202 (injunctive relief).

9 9. Venue is proper in the District of Nevada pursuant to 28 U.S.C. §§ 1391(b) and (e).
10 The BLM Tonopah Field Office, which produced the FEIS and is responsible for the Project's
11 compliance with applicable laws and regulations, is located in Nye County, Nevada. The Project
12 is located in Esmeralda County, Nevada. Some or all Plaintiffs are located and reside in Nevada.

13 10. Venue is proper in the Southern Division of this District, as the challenge involves
14 federal lands and resources in Esmeralda County. L.R. 1A 1-6.

15 **PARTIES**

16 11. The Center is a tax-exempt, non-profit, membership organization with 87,904
17 members, including 691 members in Nevada. The Center's main office is in Tucson, Arizona. The
18 Center works through science, law, and creative media to secure a future for all species, great or
19 small, hovering on the brink of extinction. The Center's members' diverse interests span natural
20 history, ecology, conservation, wildlife and native plant observation, nature photography, hiking,
21 camping, backpacking, quiet and solitude in nature, dark skies, spiritual renewal, and a love of the
22 Great Basin's natural landscapes. The Center's members derive benefit from engaging with
23 landscapes and the endangered species that reside there. The Center's members expect and rely
24 upon federal and state regulatory agencies, such as BLM, to protect the species, habitats,
25 viewsheds, and air and water quality of these lands. The Project would be located in and have
26 effects to lands and waters where Center staff and members have enjoyed, and intend to continue
27 enjoying in the coming months, camping, hiking, photographing natural high desert beauty,

1 appreciating Tiehm's buckwheat, bighorn sheep, pronghorn, greater sage-grouse and other wildlife
2 in the area. These uses will be immediately, irreparably, and significantly harmed by the Project
3 and related operations.

4 12. Plaintiff Great Basin Resource Watch (GBRW) is a non-profit organization based
5 in Reno, Nevada that is concerned with protecting the Great Basin's land, air, water, wildlife and
6 communities from the adverse impacts of hardrock mining. GBRW members include ranchers,
7 sportsmen, conservationists, and Native Americans dedicated to protecting the communities, land,
8 air, water and Native American resources of the Great Basin. Members of GBRW have used,
9 enjoyed, and valued the area of the Project, including the Project site, for many years. Members of
10 GBRW hike, view and photograph wild plant and animal life, and generally enjoy using the area
11 of the Project for recreational, historical, conservation, and aesthetic purposes. Members of GBRW
12 intend on continuing to use and value the lands at, and affected by, the Project during 2024 and in
13 future years. These uses will be immediately, irreparably, and significantly harmed by the Project
14 and related operations.

15 13. Plaintiff Western Shoshone Defense Project (WSDP) is under the direction of the
16 Western Shoshone National Council, a traditional government of the Western Shoshone people.
17 Its mission is to protect and preserve Western Shoshone rights and homelands for present and
18 future generations based upon cultural and spiritual traditions. WSDP staff operate under the
19 guidance of a director, the Western Shoshone National Council, whose members represent various
20 Western Shoshone communities and organizations, and a Community Advisory Board with
21 members from Western Shoshone communities. WSDP and its members have concrete and
22 significant interests in the lands affected by the Project, and regularly use these lands for
23 traditional, cultural, and religious uses. These interests will be negatively affected, and many will
24 be eliminated, by the Project.

25 14. Plaintiffs bring this action on their own behalf, and on behalf of their members.
26 Plaintiffs and/or their members regularly use and enjoy the federal public lands managed by the
27 BLM within the Tonopah Planning Area, including the lands within the Project Area.

1 15. By authorizing the Project, Defendants approved actions that will significantly and
2 irreparably harm Plaintiffs' interests in the Rhyolite Ridge area and Tiehm's buckwheat. The legal
3 violations alleged in this Complaint cause direct injury to Plaintiffs' health, recreational,
4 inspirational, religious, scientific, educational, and aesthetic interests. Plaintiffs and their members
5 have been and will continue to be adversely affected and irreparably harmed if Defendants'
6 ongoing violations of the ESA, FLPMA, NEPA, and the APA continue. These are actual, concrete
7 injuries caused by the BLM's violations of the ESA, FLPMA, NEPA, and the APA. Plaintiffs and
8 their members' injuries will be redressed by the relief sought.

9 16. Defendants' failure to comply with NEPA and FLPMA additionally harms
10 Plaintiffs and their members by denying them the right to informed decision-making and full
11 disclosure under NEPA and FLPMA, as well as the right to meaningfully participate in the
12 decision-making process.

13 17. Defendant DOI is a cabinet-level executive agency responsible for, among other
14 things, managing federally-owned lands, wildlife, and public natural resources throughout the
15 United States. DOI has the ultimate responsibility to administer and implement FLPMA, and to
16 comply with all other applicable federal laws, including NEPA and the ESA.

17 18. Defendant Debra Haaland, U.S. Secretary of the Interior, is the highest-ranking
18 official within DOI, and in that capacity has ultimate responsibility for the administration of federal
19 public lands and implementation of the statutes applicable thereto, including FLPMA, NEPA and
20 the ESA. Secretary Haaland is sued in her official capacity.

21 19. Defendant Laura Daniel-Davis is the Acting Deputy Secretary of the Interior, and
22 in that capacity is responsible for the administration of federal public lands and implementation of
23 the statutes applicable thereto, including FLPMA, NEPA and the ESA. Acting Deputy Secretary
24 Daniel-Davis signed the 2024 ROD, which formally approved the Project. She is sued in her
25 official capacity.

20. Defendant BLM is an agency of Defendant DOI. BLM and its officers are responsible for administering federally-owned public lands and natural resources, under all federal laws applicable thereto, including NEPA, FLPMA and the ESA.

21. Defendant FWS is an agency of Defendant DOI. FWS and its officers are responsible for administering the ESA, particularly regarding potential impacts to wildlife species that have been listed as threatened or endangered with extinction pursuant to the ESA.

22. Defendant Martha Williams is the Director of FWS. The Secretary of the Interior has delegated the authority to administer the ESA to FWS for non-marine wildlife and plants. 50 C.F.R. § 402.01(b). Director Williams is sued in her official capacity.

LEGAL BACKGROUND

A. The Administrative Procedure Act (APA)

23. The APA provides for judicial review of federal agency actions for persons adversely affected or aggrieved by the agency action. 5 U.S.C. § 702. Agency action made reviewable by statute and final agency action for which there is no other adequate remedy are subject to judicial review. *Id.* § 704.

24. The APA requires a reviewing court to “compel agency action unlawfully withheld or unreasonably delayed” and “hold unlawful and set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” *Id.* § 706.

25. An agency action is arbitrary and capricious if the agency relied on factors which Congress did not intend for it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

B. The Endangered Species Act (ESA)

26. The ESA is “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). It is

1 designed to conserve the ecosystems upon which endangered and threatened species depend and
 2 to provide a program to conserve listed species. 16 U.S.C. § 1531(b). “[T]he plain intent of
 3 Congress in enacting the [ESA] was to halt and reverse the trend toward species extinction,
 4 whatever the cost.” *Hill*, 437 U.S. at 184.

5 *i. ESA Section 7(a)(1) Affirmative Conservation Duty*

6 27. Section 7(a)(1) of the ESA, 16 U.S.C. § 1536(a)(1), requires all federal agencies—
 7 including BLM and DOI—to utilize their authorities to further the “conservation” of threatened
 8 and endangered species. “Conservation” means “to use and the use of all methods and procedures
 9 which are necessary to bring any endangered species or threatened species to the point at which
 10 the measures provided pursuant to this chapter are no longer necessary,” *id.* § 1532(3), i.e., to bring
 11 about the recovery of a species listed as endangered or threatened. The language of Section 7(a)(1)
 12 reflects “a conscious decision by Congress to give endangered species priority over the ‘primary
 13 missions’ of federal agencies.” *Hill*, 437 U.S. at 185; *see also Carson-Truckee Water Conservancy*
 14 *Dist. v. Clark*, 741 F.2d 257, 259 (9th Cir. 1984); *Pyramid Lake Paiute Tribe of Indians v. United*
 15 *States Dep’t of Navy*, 898 F.2d 1410, 1417-18 (9th Cir. 1990).

16 *ii. ESA Section 7(a)(2) Duty to Insure Against Jeopardy and Adverse Modification*

17 28. ESA Section 7(a)(2) requires each federal agency, in consultation with a federal
 18 wildlife agency (FWS for Tiehm’s buckwheat), to ensure that any proposed action is not likely to
 19 jeopardize the continued existence of a listed species or destroy or adversely modify its critical
 20 habitat. *Id.* § 1536(a)(2). To “jeopardize the continued existence of” means “to engage in an action
 21 that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of
 22 both the survival and recovery of a listed species in the wild by reducing the reproduction,
 23 numbers, or distribution of that species.” 50 C.F.R. § 402.02. “Destruction or adverse
 24 modification” means “a direct or indirect alteration that appreciably diminishes the value of critical
 25 habitat as a whole for the conservation of a listed species.” *Id.*

26 29. As the U.S. Supreme Court has explained, “insure” in Section 7(a)(2) means “[t]o
 27 make certain, to secure, to guarantee.” *Center for Biological Diversity v. Haaland*, 87 F.4th 980,

1 989 (9th Cir. 2023). (*quoting Nat'l Ass'n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 667
2 (2008)).

3 30. The ESA defines critical habitat as: (1) specific areas of occupied habitat that
4 contain the “physical or biological features [PBFs] essential to the conservation of the species”
5 and “which may require special management considerations or protection,” and (2) unoccupied
6 habitat that is “essential for the conservation of the species.” *See* 50 C.F.R. § 424.19. As noted,
7 “conservation” means “to use and the use of all methods and procedures which are necessary to
8 bring any endangered species or threatened species to the point at which the measures provided
9 pursuant to this chapter are no longer necessary,” 16 U.S.C. § 1532(3).

10 31. If any agency action “may affect” a listed species or its critical habitat, “formal
11 consultation” is required unless FWS concurs in writing that the action is “not likely to adversely
12 affect” the species. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12; *id.* § 402.14(a)-(b). During formal
13 consultation, FWS must review all relevant information, evaluate the current status and
14 environmental baseline of the species, and evaluate the effects and cumulative effects of the
15 proposed action on the species. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g)(1)-(3). The
16 “[e]ffects of the action” refers to the direct and indirect effects of an action on the species or
17 critical habitat, together with the effects of other activities that are interrelated or interdependent
18 with that action, that will be added to the environmental baseline.” 50 C.F.R. § 402.02. FWS must
19 “[a]dd the effects of the action and cumulative effects to the environmental baseline and[,] in light
20 of the status of the species and critical habitat, formulate [its] opinion as to whether the action is
21 likely to jeopardize the continued existence of [the] listed species or result in the destruction or
22 adverse modification of critical habitat.” 50 C.F.R. § 402.14(g)(4). Throughout its analysis, the
23 Service must utilize the “best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2);
24 50 C.F.R. § 402.14(d).

25 32. At the conclusion of consultation, Fish and Wildlife Service issues a “biological
26 opinion [BiOp] as to whether the action, taken together with cumulative effects, is likely to
27 jeopardize the continued existence of listed species or result in the destruction or adverse

1 modification of habitat of such species.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d), (g)(4). If
2 the Service concludes that the proposed action “will jeopardize the continued existence of” a listed
3 species or adversely modify critical habitat, the biological opinion must outline “reasonable and
4 prudent alternatives.” 16 U.S.C. § 1536(b)(3)(A).

5 33. To comply with Section 7(a)(2), a BiOp must identify the conditions necessary for
6 a species’ survival and recovery. *See Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524
7 F.3d 917, 936 (9th Cir. 2008) (“It is only logical to require that the agency know roughly at what
8 point survival and recovery will be placed at risk before it may conclude that no harm will result
9 from ‘significant’ impairments to habitat that is already severely degraded.”). Further, the BiOp
10 must consider impacts on recovery; a BiOp that focuses solely on whether a species can cling to
11 survival despite an action’s adverse effects violates the ESA. *Id.* at 917.

12 34. Although the ESA’s implementing regulations direct FWS to “give appropriate
13 consideration to any beneficial actions as proposed or taken by the Federal agency or applicant,”
14 50 C.F.R. § 402.14(g)(8), a BiOp cannot rely upon mitigation or minimization plans that “refer
15 only to generalized contingencies or gesture at hopeful plans” in reaching a “no jeopardy” or “no
16 adverse modification” conclusion. *Center for Biological Diversity v. Bernhardt*, 982 F.3d 723, 744
17 (9th Cir. 2020).

18 35. If an action agency fails to carry out the mitigation measures contained in a BiOp,
19 it must re-initiate consultation with FWS. 50 C.F.R. § 402.16(c). If the action agency does not re-
20 initiate consultation, the BiOp is invalid. *Bernhardt*, 982 F.3d at 744. An indefinite mitigation
21 measure is less likely to trigger re-consultation because it will be difficult to know at which point
22 or whether the action agency has failed to comply. “For this reason, measures that are too vague,
23 or do not commit resources, or are otherwise insufficiently integrated into the proposed action are
24 generally unenforceable under the ESA, and thus cannot be properly relied upon.” *Id.*

25 36. Although the wildlife agency is responsible for the content of the biological
26 opinion, the ultimate duty to ensure that an activity does not jeopardize the continued existence of
27 a listed species, or result in the destruction or adverse modification of critical habitat, lies with the

1 action agency—in this case, BLM. An agency’s reliance on an arbitrary, capricious, and/or invalid
 2 biological opinion is likely to support the conclusion that the relying agency violated § 7(a)(2)’s
 3 substantive duty to ensure against jeopardy and adverse modification. *See Wild Fish Conservancy*
 4 *v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010).

5 ***iii. ESA Notice Requirements and “Citizen-Suit” Jurisdiction***

6 37. The ESA provides that “any person may commence a civil suit on his own behalf
 7 … to enjoin any person, including the United States and any other governmental instrumentality
 8 or agency . . . who is alleged to be in violation of any provision of this Act or regulation issued
 9 under the authority thereof.” 16 U.S.C. § 1540(g)(1).

10 38. Such an action may be “commenced” after “sixty days after written notice of the
 11 violation has been given to the Secretary, and to any alleged violator of any such provision or
 12 regulation.” *Id.* § 1540(g)(2)(A)(i).

13 39. On October 24 and 25, 2024, Plaintiffs gave notice via electronic mail and U.S.
 14 Certified Mail of their intent to sue Defendants DOI, FWS, and BLM for violations of the
 15 Endangered Species Act pursuant to 16 U.S.C. § 1540(g)(1). Plaintiffs intend to amend their
 16 Complaint after the 60-day notice period runs to include claims under ESA Sections 7(a)(1) and
 17 7(a)(2), provided Defendants do not cure the noticed ESA violations before that time.

18 40. However, Plaintiffs’ claims alleging that the BiOp is arbitrary, capricious, and
 19 contrary to the ESA are brought under the APA, not under the ESA’s “citizen-suit” provisions,
 20 and therefore are not subject to the 60-day notice requirement. *American Rivers v. National*
 21 *Marine Fisheries Serv.*, 126 F.3d 1118, 1124-25 (9th Cir. 1997).

22 **C. The Mining Law of 1872**

23 41. The Mining Law of 1872 (Mining Law) gives to United States citizens free of
 24 charge, except for small filing and other fees, mining rights upon discovery of “valuable minerals”
 25 on federal land. 30 U.S.C. §§ 21-54. Under the Mining Law, U.S. citizens may claim and occupy
 26 any federal lands which contain a “valuable mineral deposit” for mining purposes, *id.* § 22,
 27 provided those lands have not been withdrawn from the operation of the Mining Law by Congress,

1 the President, or the Department of the Interior, *see Center for Biological Diversity v. U.S. Fish*
 2 *and Wildlife Service*, 33 F.4th 1202, 1208-09 (9th Cir. 2022).

3 42. A “valuable mineral deposit” is “mineral [that] can be ‘extracted, removed and
 4 marketed at a profit.’” *United States v. Coleman*, 390 U.S. 599, 600 (1968). In the absence of a
 5 discovery of a valuable mineral deposit, Section 22 of the Mining Law gives a miner no right to
 6 occupy the claim beyond the temporary occupancy necessary for exploration. *Center for*
 7 *Biological Diversity*, 33 F.4th at 1209.

8 43. The Mining Law also allows the owner of a valid mining claim on lands containing
 9 a valuable mineral deposit to obtain occupation rights to a valid millsite claim, which is defined as
 10 “nonmineral land not contiguous” to the valuable mineral deposit, “for mining or milling
 11 purposes.” 30 U.S.C. § 42(a). The Mining Law limits individual millsites to five acres. *See* 30
 12 U.S.C. § 42.

13 44. Under the Mining Law, “no right arises from an invalid claim of any kind” because
 14 the contrary holding would “work an unlawful private appropriation in derogation of the rights of
 15 the public.” *Cameron v. United States*, 252 U.S. 450, 460 (1920).

16 **D. The Federal Land Policy and Management Act (FLPMA)**

17 45. FLPMA is the “organic act” of BLM and governs the agency’s management of
 18 public lands and resources. In FLPMA, Congress declared that is the policy of the United States
 19 to manage the public lands “in a manner that will protect the quality of scientific, scenic, historical,
 20 ecological, environmental, air and atmospheric, water resource, and archeological values” and that,
 21 “where appropriate, will preserve and protect certain public lands in their natural condition.” 43
 22 U.S.C. § 1701(a)(8).

23 *i. BLM’s Duty to Prevent Unnecessary and Undue Degradation (UUD)*

24 46. FLPMA requires that: “In managing the public lands the Secretary [of Interior]
 25 shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue
 26 degradation [UUD] of the lands.” 43 U.S.C. § 1732(b). In preceding sentence, Congress made it
 27 explicit (albeit by negative phrasing) that this mandate “amend[ed] the Mining Law of 1872 [and]

1 impair[ed] the rights of any locators or claims under that Act, including, but not limited to, rights
 2 of ingress and egress.” *Id.* “FLPMA’s requirement that the Secretary prevent UUD supplements
 3 requirements imposed by other federal laws and state law.” *Center for Biological Diversity v. U.S.*
 4 *Department of the Interior*, 623 F.3d 633, 644 (9th Cir. 2010).

5 47. BLM’s mining regulations have long defined UUD as “conditions, activities, or
 6 practices” that: (1) fail to comply with enumerated “performance standards” at 43 C.F.R. §
 7 3809.420; (2) fail to comply with the terms and conditions of an approved Mine Plan; (3) are not
 8 “reasonably incident” to mining; or (3) violate environmental protection standards for specially
 9 designated areas including Wild and Scenic Rivers, National Monuments, and designated
 10 Wilderness. 43 C.F.R. § 3809.5.

11 48. However, in April 2024 BLM issued a revised definition of UUD in its
 12 Conservation and Landscape Health Final Rule. *See* Bureau of Land Management, *Conservation*
 13 *and Landscape Health, Final Rule*, 89 Fed. Reg. 40308-49, 40319-20 (May 9, 2024). The revised
 14 definition provides:

15 “Unnecessary or undue degradation” means harm to resources or values that is not
 16 necessary to accomplish a use’s stated goals or is excessive or disproportionate to
 17 the proposed action or an existing disturbance. Unnecessary or undue degradation
 18 includes two distinct elements: “Unnecessary degradation” means harm to land
 19 resources or values that is not needed to accomplish a use’s stated goals. For
 20 example, approving a proposed access road causing damage to critical habitat for a
 21 plant listed as endangered under the Endangered Species Act that could be located
 22 without any such impacts and still provide the needed access may result in
 23 unnecessary degradation. “Undue degradation” means harm to land resources or
 24 values that is excessive or disproportionate to the proposed action or an existing
 25 disturbance. **For example, approving a proposed access road causing damage**
 26 **to the only remaining critical habitat for a plant listed as endangered under**
 27 **the Endangered Species Act, even if there is not another location for the road,**
 28 **may result in undue degradation.** The statutory obligation to prevent
 29 “unnecessary or undue degradation” applies when either unnecessary degradation
 30 or undue degradation, and not necessarily both, is implicated.

31 43 C.F.R. § 6101.4(aa) (emphasis added). *See also* ROD at 8-9 (recognizing that both the 3809
 32 and 6101 UUD standards apply to BLM’s review and approval of the Project).

1 49. Under either standard, harm to threatened and endangered species or their habitat
 2 constitutes UUD. *Id.*; 43 C.F.R. § 3809.420(b)(7) (“The operator shall take such action as may be
 3 needed to prevent adverse impacts to threatened or endangered species, and their habitat which
 4 may be affected by operations.”).

5 50. To prevent UUD, BLM must also ensure that the Project will comply with all
 6 applicable State and Federal environmental protection standards, including water quality standards
 7 and State permitting requirements. *See id.* § 3809.5 (defining “Unnecessary or Undue
 8 Degradation” as “fail[ure] to comply with . . . Federal and state laws related to environmental
 9 protection”); *id.* § 3809.420(b)(4) (requiring “[a]ll operators” to “comply with applicable Federal
 10 and state water quality standards”).

11 51. Finally, failure to conduct a proper NEPA analysis violates not only NEPA, but
 12 FLPMA’s mandate to prevent UUD, which is a fundamental requirement of BLM’s review of
 13 proposed mining plans under FLPMA. As the Interior Department has held:

14 Like NEPA, the [UUD] definition requires BLM to consider the nature and extent
 15 of surface disturbances resulting from a proposed operation and environmental
 16 impacts on resources and lands outside the area of operations. *Kendall’s Concerned*
Area Residents, 129 IBLA 130, 140-41 (1994); *Nez Perce Tribal Executive*
Committee, 120 IBLA 34, 36 (1991); *see Sierra Club v. Hodel*, 848 F.2d 1068,
 17 1078, 1091 (10th Cir.1988) (nondegradation duty is mandatory). . . . [M]ost
 18 disturbed land at the mine sites is public land and other public land is adjacent to
 19 them. To the extent BLM failed to meet its obligations under NEPA, it also failed
 to protect public lands from unnecessary or undue degradation.

20 *Island Mountain Protectors*, 144 IBLA 168, 202, 1998 WL 344223, * 28 (Interior Board of Land
 21 Appeals, IBLA) (internal citations omitted, emphasis added).

22 ***ii. BLM’s Authority to Permit Pipelines, Powerlines, and Other Types of Infrastructure***
on Public Lands

23 52. BLM’s authority to permit water pipelines, powerlines, access roads, and other
 24 ancillary infrastructure associated with mining projects is not found in the Mining Law but rather
 25 in FLPMA Title V. Under Title V, Section 504, BLM may grant a Right-of-Way (ROW) for such
 26

1 infrastructure only if it “(4) will do no unnecessary damage to the environment.” 43 U.S.C. §
 2 1764(a)

3 53. Rights of way “shall be granted, issued or renewed . . . consistent with . . . any other
 4 applicable laws.” *Id.* § 1764(c). A right-of-way that “may have significant impact on the
 5 environment” requires submission of a plan of construction, operation, and rehabilitation of the
 6 right-of-way. *Id.* § 1764(d).

7 54. A Title V ROW “shall contain terms and conditions which will . . . (ii) minimize
 8 damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the
 9 environment.” *Id.* § 1765(a). *See also* § 1765(b) (additional environmental protection
 10 requirements). The terms of this section do not limit “damage” specifically to the land within the
 11 ROW corridor, but to all lands and resources that may be affected by the ROW (here, the Project
 12 and all its impacts).

13 55. BLM not only has the authority to consider the adverse impacts on lands and waters
 14 outside the immediate ROW corridor, but it also has an obligation to protect these public resources
 15 under FLPMA. *See County of Okanogan v. National Marine Fisheries Service*, 347 F.3d 1081 (9th
 16 Cir. 2003).

17 ***iii. Duty to Comply With the Applicable Resource Management Plan (RMP)***

18 56. FLPMA requires that all activities approved by BLM comply with the requirements
 19 of the binding Resource Management Plans (RMPs), also known as “land use plans.” “The
 20 Secretary shall manage the public lands under principles of multiple use and sustained yield, in
 21 accordance with the land use plans developed by him under section 1712 of this title when they
 22 are available.” 43 U.S.C. § 1732(a)

23 57. A violation of the RMP is a violation of FLPMA. *Or. Natural Res. Council Fund*
 24 *v. Brong*, 492 F.3d 1120, 1128 (9th Cir. 2007) (explaining that BLM-approved project components
 25 were “inconsistent with the Plan” and, consequently, violated FLPMA).

26 58. BLM regulations require that all resource management decisions “conform to the
 27 approved [land use] plan.” 43 C.F.R. § 1610.5-3. Regulations at 43 C.F.R. § 1601.0-5(b) define

1 “conformity” as requiring that “a resource management action shall be specifically provided for in
2 the plan, or if not specifically mentioned, shall be clearly consistent with the terms, conditions,
3 and decisions of the approved plan or plan amendment.” “Consistent,” in turn, is defined as
4 requiring that management actions “will adhere to the terms, conditions, and decisions of officially
5 approved and adopted resource related plans” *Id.* § 1601.0-5(c).

6 59. BLM must also ensure compliance with the RMP as part of its duty to avoid UUD.
7 43 U.S.C. § 1732(b).

8 60. Accordingly, there is no general exemption from the FLPMA RMP requirements
9 for mineral operations. As BLM has recognized, mines on public lands must comply with all RMP
10 provisions. *Mineral Policy Center v. Norton*, 292 F.Supp.2d 30, 49 (D.D.C. 2003) (“[W]hen BLM
11 receives a proposed plan of operations under the 2001 rules, pursuant to Section 3809.420(a)(3),
12 it assures [sic] that the proposed mining use conforms to the terms, conditions, and decisions of
13 the applicable land use plan, in full compliance with FLPMA’s land use planning and multiple use
14 policies.”).

15 61. The applicable RMP in this case is the 1997 Tonopah RMP.

16 62. The Tonopah RMP incorporates BLM’s policy for the protection of sensitive,
17 threatened, and endangered species, referred to as the “special status species policy.” *See* Bureau
18 of Land Management, Approved Tonopah Resource Management Plan and Record of Decision 9-
19 10 (October 1997).

20 63. The objectives of the BLM special status species policy are: (a) to conserve and/or
21 recover ESA-listed species and the ecosystems on which they depend so that ESA protections are
22 no longer needed for these species; and (b) to initiate proactive conservation measures that reduce
23 or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing
24 of these species under the ESA. U.S. Dep’t of the Interior BLM, Special Status Species Mgmt.
25 Manual § 6840 at 3 (2008) [hereinafter, “*Special Status Species Manual*”]. BLM has explained the
26 purposes of the special status species policy as follows:

1 It is in the interest of the BLM to undertake conservation actions for such species
 2 before listing is warranted. It is also in the interest of the public for the BLM to
 3 undertake conservation actions to improve status of Sensitive Species so sensitive
 4 recognition is no longer warranted. By doing so, BLM will have greater flexibility
 5 in managing public lands to accomplish native species conservation objectives and
 6 other legal mandates.

7 [A]s specified in the FLPMA, the BLM shall designate Bureau sensitive species
 8 and implement measures to conserve these species and their habitats, including
 9 ESA proposed critical habitat, to promote their conservation and reduce the
 10 likelihood and need for such species to be listed pursuant to the ESA.

11 *Id.* at 36.

12 **E. The National Environmental Policy Act (NEPA)**

13 64. “NEPA’s purpose is twofold: (1) to ensure that agencies carefully consider
 14 information about significant environmental impacts and (2) to guarantee relevant information is
 15 available to the public.” *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1072
 16 (9th Cir. 2011); *see also* 42 U.S.C. § 4332(2)(C). NEPA imposes procedural requirements
 17 directing agencies to take a “hard look” at environmental consequences, including direct, indirect,
 18 and cumulative impacts to all potentially affected resources. *Idaho Sporting Cong. v. Rittenhouse*,
 19 305 F.3d 957, 973 (9th Cir. 2002).

20 65. NEPA requires federal agencies to prepare a detailed Environmental Impact
 21 Statement (EIS) for all “major Federal actions significantly affecting the quality of the human
 22 environment.” 42 U.S.C. § 4332(2)(C).

23 66. An EIS must include a full and adequate analysis of environmental impacts of a
 24 Project and alternatives and take a “hard look” at the direct, indirect, and cumulative impacts of
 25 the Project and its alternatives, resulting from all past, present, and reasonably foreseeable future
 26 actions. *See id.*; 40 C.F.R. § 1502.6; 40 C.F.R. § 1508.1(i).

27 67. NEPA review must be supported by detailed data and analysis; unsupported
 28 conclusions violate NEPA. *See Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150 (9th Cir.
 29 1998); *N. Plains v. Surface Transp. Bd.*, 668 F.3d 1067, 1075 (9th Cir. 2011) (conclusions must
 30 be supported by reliable studies).

1 68. A “critical” part of the “hard look” required under NEPA involves “[e]stablishing
 2 appropriate baseline conditions[.]” *Great Basin Res. Watch v. BLM*, 844 F.3d 1095, 1101 (9th Cir.
 3 2016). “Without establishing the baseline conditions . . . *before a project begins*, there is simply
 4 no way to determine what effect the project will have on the environment and, consequently, no
 5 way to comply with NEPA.” *Id.* (quoting *Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci*,
 6 857 F.2d 505, 510 (9th Cir. 1988)) (emphasis added) (modifications normalized); *see also Or.*
 7 *Natural Desert Ass’n v. Jewell*, 840 F.3d 562, 568 (9th Cir. 2016).

8 69. Baseline data must be gathered and analyzed before the proposed action is
 9 approved, not afterward. *See LaFlamme v. F.E.R.C.*, 852 F.2d 389, 400 (9th Cir. 1988) (“[T]he
 10 very purpose of NEPA’s requirement that an EIS be prepared for all actions that may significantly
 11 affect the environment is to obviate the need for speculation by insuring that available data is
 12 gathered and analyzed prior to the implementation of the proposed action.”) (internal citation and
 13 quotation marks omitted). “[O]nce a project begins, the ‘pre-project environment’ becomes a thing
 14 of the past” and evaluation of the project’s impacts becomes “simply impossible.” *N. Plains Res.*
 15 *Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1083 (9th Cir. 2011).

16 70. NEPA requires that DOI/BLM review mitigation measures as part of the NEPA
 17 process—not in some future decision shielded from public review:

18 Putting off an analysis of possible mitigation measures until after a project has been
 19 approved, and after adverse environmental impacts have started to occur, runs
 20 counter to NEPA’s goal of ensuring informed agency decision-making. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. [332,] 353, 109 S.Ct. 1835 [1989] (“Without [a reasonably complete] discussion [of mitigation], neither
 21 the agency nor other interested groups and individuals can properly evaluate the
 22 severity of the adverse effects.”).

23 *Great Basin Resource Watch*, 844 F.3d at 1107.

24 71. Under NEPA, BLM cannot rely on purported mitigation measures to comply with
 25 environmental protection standards when those mitigation measures have not been subject to
 26 public review. “[A] post-EIS analysis—conducted without any input from the public—cannot cure
 27 deficiencies in an EIS.” *Id.* at 1104.

1 72. An EIS must include a robust discussion of cumulative impacts. An agency's
2 obligation under NEPA to consider cumulative impacts extends to all "past," "present," and
3 "reasonably foreseeable future actions." 40 C.F.R. § 1508.1(i). This analysis must include Project-
4 specific cumulative data, a detailed quantified assessment of other projects' combined
5 environmental impacts, and objective quantification of the impacts from other past, existing and
6 proposed activities within the affected area. *Great Basin Mine Watch v. Hankins*, 456 F.3d 955,
7 971-74 (9th Cir. 2006).

8 73. "Environmental impact statements shall state how alternatives considered in them
9 and decisions based on them will or will not achieve the requirements of sections 101 and 102(1)
10 of NEPA," NEPA implementing regulations, and "other environmental laws and policies." 40
11 C.F.R. §1502.2(d).

12 FACTUAL AND PROCEDURAL BACKGROUND

13 A. Rhyolite Ridge

14 74. Rhyolite Ridge is located in the Silver Peak Range of Esmeralda County, Nevada,
15 within the traditional territory of the Shoshone and Paiute peoples, on federal public lands managed
16 by the BLM Tonopah Field Office. To the west is Fish Lake Valley, which contains extensive
17 groundwater-dependent wetlands, also located on BLM-managed public lands. The southern end
18 of Fish Lake Valley hosts a small agricultural community and the unincorporated town of Dyer.

19 75. The Rhyolite Ridge area has a dry, high desert climate; average annual precipitation
20 is less than four inches. The main vegetation communities are Great Basin shrubland and pinyon-
21 juniper woodland, interspersed with sparsely vegetated areas and rock outcrops. There are dozens
22 of natural springs in and around the Project area, including the culturally significant Cave Spring.

23 76. The shrublands, woodland, and springs at Rhyolite Ridge provide high-quality
24 habitat for numerous wildlife species, including but not limited to: bighorn sheep, pronghorn
25 (antelope), mule deer, golden eagles, greater sage-grouse, and pinyon jay. Many of the wildlife
26 species found at Rhyolite Ridge or in Fish Lake Valley are BLM-designated "sensitive" species
27 and/or have been proposed for ESA listing.

1 77. The Rhyolite Ridge area has historical, spiritual, and cultural significance to
2 Shoshone and Paiute peoples. Oral histories estimate that there were 3,000 Western Shoshone
3 living in Fish Lake Valley before European contact. The Shoshone and Paiute traditionally hunted
4 big game and collected plants for food and medicine at Rhyolite Ridge. Shoshone and Paiute
5 people also fished in the creeks of the White Mountain range to the west, and built irrigation
6 systems to maintain and enhance natural plant communities in Fish Lake Valley.

7 78. Cave Spring is an irreplaceable Western Shoshone sacred site which is essential to
8 the continued intergenerational transmission of local Shoshone identity—it is where Western
9 Shoshone families go to educate young people about Shoshone identity and share sacred teachings
10 through story. The Shoshone cultural practices involving Cave Spring cannot be achieved at any
11 other site.

12 79. There are several other projects and activities either currently proceeding or
13 proposed in Fish Lake Valley, including agriculture, geothermal energy development, and other
14 mineral exploration and development, which could cumulatively impact the environment.
15 Agricultural pumping in Fish Lake Valley has significantly lowered the water table and threatens
16 to permanently deplete the groundwater supply. There are active geothermal leases encompassing
17 part or all of 47 sections of public land in the vicinity of the Fish Lake Valley wetlands, including
18 leases held by Open Mountain Energy, Ormat, and a subsidiary of Fervo Energy. Geothermal
19 exploration and development would impact groundwater resources by pumping and reinjecting
20 large volumes of water and changing the subsurface hydrology. There are also several other lithium
21 mining prospects and potentially thousands of mining claims. Lithium Corporation claims to hold
22 11,360 acres of mining claims in Fish Lake Valley, targeting brines underneath the playa. Acme
23 Lithium Inc. claims to hold 4,139 acres of mining claims in Fish Lake Valley. Their mining claims
24 are lode claims, meaning they would be targeting lithium claystones for an open-pit mine. They
25 have conducted geophysical surveys and surface sampling. Nevada Alaska Mining Company also
26 holds a significant number of claims in the area.

27

1 **B. Tiehm’s buckwheat**

2 80. Tiehm’s buckwheat (*Eriogonum tiehmi*) is a perennial herb in the wild buckwheat
3 genus, *Eriogonum*. U.S. Fish and Wildlife Service, *Endangered and Threatened Wildlife and*
4 *Plants; Endangered Species Status and Designation of Critical Habitat for Tiehm’s Buckwheat*,
5 87 Fed. Reg. 77368, 77369 (December 16, 2022) [hereinafter, *Listing Rule*]. It was first discovered
6 in 1983 and described in 1985. *Id.* “All available taxonomic and genetic research information
7 indicates that Tiehm’s buckwheat is a valid and recognizable taxon and represents a distinct
8 species.” *Id.*

9 81. Tiehm’s buckwheat is a dense mounded herb that spreads low across the landscape.
10 Its leaves are either white or gray. *Id.* Flowers, which bloom through May and June, are generally
11 light yellow and turn red with age. *Id.*

12 82. The entire global population of Tiehm’s buckwheat exists on 10 acres of BLM-
13 managed public land between 5,960 and 6,200 feet elevation in the Rhyolite Ridge area of the
14 Silver Peak Range. *Id.* at 77369-70. A 2019 survey found eight populations, counting 43,000 plants
15 in total, covering approximately 10 acres across a three square mile area. *See id.* at 77371-72, Table
16 1. Surveys for other potential sites yielded no discoveries of additional populations, and the
17 likelihood of additional populations being discovered is very low. *See* U.S. Fish and Wildlife
18 Service, Biological Opinion for the Rhyolite Ridge Lithium-Boron Mine Project 25 (September 4,
19 2024) [hereinafter, “BiOp”].

20 83. Researchers have recognized eight distinct subpopulations within the one known
21 existing population. *Listing Rule*, 87 Fed. Reg. at 77370. The subpopulations are separated by a
22 rural, unpaved, county road known as the Cave Springs Road. *See id.* Subpopulations 1, 2, and 8
23 occur north of the road, and subpopulations 3, 4, 5, 6, and 7 occur south of the road. *Id.* The

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1 subpopulations south of the road will be most impacted by the proposed mine, as they are 15 feet
 2 from proposed mine pit and within 200 feet of a waste rock dump.¹ *See* BiOp at 42.

3 84. Approximately 60 percent of the total Tiehm's buckwheat population was lost in
 4 an unprecedented depredation event in late 2020 that has been attributed to herbivory. *Id.* at 77373.
 5 A population census following this incident found fewer than 16,000 plants. *Id.* at 77371-72, Table
 6 1. In its Final Rule listing Tiehm's buckwheat as an endangered species, FWS found that “[t]he
 7 2020 herbivory event . . . was extensive enough to compromise the long-term viability of
 8 individuals, subpopulations, and the overall population.” *Id.* at 77373.

9 85. Tiehm's buckwheat's extremely small range indicates it is highly adapted to the
 10 specific conditions in which it grows, which include open, dry, barren, and highly mineralized soil
 11 types that are generally considered poor or unproductive, as well as an unusually abundant and
 12 diverse native pollinator community. *Id.* at 77369-70. Researchers consider Tiehm's buckwheat to
 13 be a “soil specialist” because “it occurs primarily or exclusively on challenging soils that differ
 14 from the surrounding soil matrix and grows better on soils with these conditions.” *Id.* at 77389;
 15 *see also id.* at 77369, 77374. Given the species' highly restricted range, there are likely other,
 16 unknown factors that also determine habitat suitability.

17 86. Within occupied areas, the vegetation varies from exclusively Tiehm's buckwheat
 18 plants to sparse associations with a few other low-growing shrubs, herbs, and grass species, such
 19 as shadscale saltbush (*Atriplex confertifolia*), black sagebrush (*Artemisia nova*), Nevada Mormon
 20 tea (*Ephedra nevadensis*), James' galleta (*Hilaria jamesii*), and alkali sacaton (*Sporobolus*
 21 *airoides*). *Id.* at 77370.

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 24 ¹ The BiOp, Final EIS, Biological Assessment, Plan of Operations, and other supporting
 25 documents for the Project use euphemistic language to describe the mine facilities. For example,
 26 the mine pit is referred to as a “quarry,” the tailings dump is called a “spent ore storage facility,”
 27 or “SOSF,” and waste rock dumps are called “overburden storage facilities,” or “OSFs.” *See, e.g.*,
 BiOp at 5-11. For clarity, this Complaint will utilize the standard terminology unless quoting
 directly from these sources.

1 87. Tiehm’s buckwheat supports an “especially high” abundance and diversity of
2 arthropods (insects, mites, and spiders), and FWS has concluded, based on peer-reviewed research
3 (McClinton et al. 2022) that “the presence of an intact pollinator community is important for
4 maintaining the species.” *Id.* at 77370; *see also* U.S. Fish and Wildlife Service, Species Status
5 Assessment Report for *Eriogonum tiehmii* (Tiehm’s Buckwheat), Version 2.0 6, 15-21 (May
6 2022) [hereinafter, “SSA”].

7 88. The leading threats to Tiehm’s buckwheat are: (1) mineral exploration and
8 development, (2) road development and off-highway-vehicle (OHV) use, (3) livestock grazing, (4)
9 nonnative, invasive plant species, (5) herbivory, and (6) climate change. *Listing Rule*, 87 Fed. Reg.
10 at 77373; SSA at 27. “Climate change may further influence the degree to which these threats,
11 individually or collectively, . . . affect Tiehm’s buckwheat.” *Listing Rule*, 87 Fed. Reg. at 77373.

12 89. Mineral exploration and development presents the most severe and immediate
13 threat—the Project would require the long-term elimination of 191 acres of designated critical
14 habitat and result in various indirect adverse impacts including habitat fragmentation, proliferation
15 of invasive species, fugitive dust pollution, changes in hydrology, land subsidence, geologic
16 instability from mine-pit excavation, direct and indirect impacts to pollinators, and others. See BA
17 at 8-5 to 8-32; Naomi Fraga, Ph.D., Assessment of the Buckwheat Protection Plant for the Draft
18 Environmental Impact Statement of the Rhyolite Ridge Lithium-Boron Mine, Esmeralda County,
19 Nevada (May 30, 2024) [hereinafter, “Fraga 2024a”].

20 90. Exploration to support development of the proposed Project began in 2018 and has
21 already had a profound impact on Tiehm’s buckwheat and its native ecosystem. Ioneer’s two 2018
22 exploration projects—authorized by BLM without public notice or an environmental impacts
23 analysis, contrary to BLM’s mining regulations, *see* Complaint, *Center for Biological Diversity v.*
24 *Bureau of Land Management*, No. 2:19-cv-01915, ECF 1 (D. Nev. Oct. 30, 2019)—disturbed 15
25 acres of habitat (or 0.7 percent of the disturbance authorized under the ROD), and resulted in the
26 loss of native vegetation cover, proliferation of invasive species, altered soil structure, and the
27

1 creation of new vehicle routes that led to increasing OHV incursions into occupied habitat. Fraga
2 2024a.

3 91. On October 7, 2019, due to the impacts from exploration and potential impacts from
4 the proposed Project, the Center petitioned FWS to list Tiehm's buckwheat under the Endangered
5 Species Act. Center for Biological Diversity, Emergency Petition to the U.S. Fish And Wildlife
6 Service to List Tiehm's Buckwheat (*Eriogonum tiehmi*) under the Endangered Species Act as an
7 Endangered or Threatened Species and to Concurrently Designate Critical Habitat (October 7,
8 2019) [hereinafter, "Listing Petition"]. Following the submission of the listing petition, mining
9 exploration activity at Rhyolite Ridge appears to have accelerated. Letter from Patrick Donnelly,
10 Center for Biological Diversity, to Jon Raby, BLM, re: Ongoing mineral exploration activities at
11 Rhyolite Ridge affecting Tiehm's buckwheat (Oct. 29, 2019).

12 92. On October 30, 2019, the Center filed suit in this Court challenging BLM's
13 unlawful approval of Ioneer's exploration activities as contrary to FLPMA, NEPA, and BLM
14 mining regulations. *See Complaint, Center for Biological Diversity v. Bureau of Land*
15 *Management*, Case 2:19-cv-01915, ECF 1 (D. Nev. October 30, 2019). The litigation concluded
16 in January 2020 when the Center and Ioneer reached a settlement agreement under which the
17 Center agreed to withdrew its request for injunctive relief and Ioneer agreed to provide concurrent
18 notice of any future exploration operations authorized under BLM's mining regulations at 43
19 C.F.R. Part 3809. *See Stipulation, Exhibit 1 to Motion, Center for Biological Diversity v. Bureau*
20 *of Land Management*, Case 2:19-cv-01915, ECF 33-1 (January 3, 2020).

21 93. Under the terms of Ioneer's 2018 exploration notices, Ioneer was required to
22 reclaim disturbed areas through re-grading and re-seeding. Exhibit 2 to Answer (Declaration of
23 Perry B. Wickham, BLM), *Center for Biological Diversity v. Bureau of Land Management*, No.
24 2:19-cv-01915-GMN-EJY, ECF 27-2 (D. Nev. December 6, 2019). However, areas disturbed by
25 exploration have not been successfully reclaimed and invasive species continue to spread
26 throughout Tiehm's buckwheat critical habitat, including occupied habitat. Naomi Fraga, Ph.D.,
27 Comments on the USFWS Biological Opinion and Buckwheat Protection Plan for the Final

1 Environmental Impact Statement of the Rhyolite Ridge Lithium-Boron Mine, Esmeralda County,
2 Nevada (Oct. 20, 2024), [hereinafter “Fraga 2024b”], Appendix A at 1 (“Reclamation within
3 exploration areas has been ineffective to date as evidenced by the relatively low cover of native
4 vegetation and the relatively high cover of non-native species occurring at these sites.”).

5 94. “Surveys of Tiehm’s buckwheat conducted between 1994 and 2010 did not
6 document any occurrences of nonnative, invasive species in its habitat.” *Listing Rule*, 87 Fed. Reg.
7 at 77376. However, since 2019 the invasive species *Halopepon glomeratus* or “saltlover” has
8 quickly become “the most abundant non-native, invasive species within and adjacent to all
9 subpopulations of *E. tiehmii*, especially in areas disturbed from mining exploration activities.”
10 SSA at 31-32. The disturbance from mining exploration has served as a vector for invasion of
11 occupied Tiehm’s buckwheat habitat. Fraga 2024b, Appendix A at 3-4. In 2021, surveys conducted
12 for Ioneer estimated *H. glomeratus* cover to be equal to or greater than Tiehm’s buckwheat in all
13 subpopulations. *Id.* at 5. More recent surveys show even greater cover of *H. glomeratus*, despite
14 Ioneer’s attempts at reclamation. *Id.* at 3-4.

15 95. Other non-native species recently documented within Tiehm’s buckwheat critical
16 habitat include Russian thistle (*Salsola tragus*) cheatgrass (*Bromus tectorum*); small alyssum
17 (*Alyssum alyssoides*); crossflower (*Chorispora tenella*); Russian olive (*Elaeagnus angustifolia*);
18 tall whitetop (*Lepidium draba*); curly dock (*Rumex crispus*); sweet clover (*Melilotus officinalis*);
19 rabbitfoot grass (*Polypogon monspeliensis*); and yellow salsify (*Tragopogon dubius*). *Id.* at 2-3.

20 96. “The abundance and distribution of non-native and invasive species within . . .
21 Tiehm’s buckwheat critical habitat is highly associated with disturbance from mining exploration
22 activities, including the blading of roads, and placement of mining infrastructure.” *Id.* at 1.

23 97. In addition to mining exploration disturbance and associated weed invasion,
24 Tiehm’s buckwheat and its habitat have been adversely impacted by OHV incursions, livestock
25 grazing, and naturally occurring threats.

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1 98. OHV use has been documented as an emerging threat to Tiehm's buckwheat
2 following Ioneer's first round of exploration. OHVs can compact soil, crush plants, fragment
3 habitat, and reduce overall species diversity. *Listing Rule*, 87 Fed. Reg. at 77375.

4 99. OHV impacts have occurred in subpopulations 1, 4, 5, and 6. *Id.* On December 13,
5 2019, impacts from cross-country vehicle (truck or OHV) travel were observed within
6 subpopulation 1 and adjacent to subpopulation 5. The Center submitted a report to BLM
7 documenting these impacts. *See* Center for Biological Diversity, First Report re: OHV Travel
8 through Tiehm's Buckwheat Habitat (undated). New vehicle tracks, human "social trails," and
9 OHVs within Tiehm's buckwheat habitat continued to be observed after this report was sent,
10 including on October 31, 2020, November 15, 2020, March 2, 2021, April 13, 2021, May 7, 2021,
11 May 18, 2021, May 29, 2021, July 16, 2021, September 11, 2021, September 24, 2021, and January
12 29, 2022. *See* Center for Biological Diversity, Second Report re: OHV Damage to Tiehm's
13 Buckwheat Habitat (Nov. 16, 2020); Center for Biological Diversity, Third Report re: OHV
14 Damage to Tiehm's Buckwheat Habitat (undated).

15 100. Livestock impacts have been documented several times in and around Tiehm's
16 buckwheat critical habitat, including in occupied habitat. Livestock grazing has many direct and
17 indirect impacts on plant species including direct trampling, soil compaction, and disturbance that
18 "can create conditions conducive to the invasion of non-native plant species." *Listing Rule*, 87 Fed.
19 Reg. at 77375. Cattle grazing has also been shown to reduce the volume and average size of
20 buckwheat plants. Listing Petition at 23.

21 101. Cattle have frequently been spotted in the vicinity of Rhyolite Ridge, usually
22 congregating around Cave Spring. On March 27, 2021, cattle sign (consisting of feces and
23 hoofprints) was first observed in Tiehm's buckwheat habitat, within subpopulation 1. Additional
24 cattle sign and trampling impacts were subsequently observed in occupied Tiehm's buckwheat
25 habitat on April 18, 2021, December 28, 2021, May 2, 2022, August 11, 2022, January 3, 2023,
26 January 20, 2023, February 4, 2023, and April 4, 2023. *See* Center for Biological Diversity Report
27 re: Cattle Impacts to Tiehm's Buckwheat (Jan. 4, 2023); Center for Biological Diversity, 60-Day

1 Notice of Intent to Sue over Violations of the Endangered Species Act Regarding Impacts to
2 Tiehm's Buckwheat from Authorized Livestock Grazing (Jan. 9, 2023).

3 102. The severe impact of the 2020 herbivory event—which destroyed 60 percent of the
4 total population—along with the impending existential threat of mine development, prompted
5 FWS to list Tiehm's buckwheat as an endangered species in 2022.

6 103. On July 22, 2020, FWS published a “90-day” finding pursuant to 16 U.S.C. §
7 1533(b)(3)(A) stating that the Center’s October 29, 2019 listing petition presented substantial
8 scientific or commercial information indicating listing may be warranted. U.S. Fish and Wildlife
9 Service, *Threatened and Endangered Wildlife and Plants; 90-Day Findings for Two Species*, 85
10 Fed. Reg. 44265-66 (July 22, 2020). The 90-Day Finding stated that listing was warranted due to
11 “the potential destruction of habitat from mining,” as well as “invasive species, off-road vehicles,
12 wildfires, climate change, and grazing.” *Id.*

13 104. Under the ESA, the Service must determine within 12 months after receiving a
14 petition whether, based on the best available scientific and commercial information, listing is
15 warranted. 16 U.S.C. § 1533(b)(3)(B). However, despite the imminent and existential nature of the
16 threats cited in the listing petition and acknowledged in the 90-day finding, FWS did not make this
17 required finding for Tiehm's buckwheat within the 12-month deadline. *See Complaint, Center for*
18 *Biological Diversity v. Bernhardt*, No. 2:20-cv-01812-JCM-NJK (D. Nev., Sept. 29, 2020).

19 105. On September 29, 2020, the Center filed suit in this Court to compel FWS to make
20 the mandatory 12-month finding. *Id.* On April 21, 2021, this Court issued an Order declaring that
21 FWS had violated the ESA and ordering FWS to prepare a 12-month finding within 30 days. Order,
22 *Center for Biological Diversity v. Bernhardt*, No. 2:20-cv-01812-JCM-NJK, ECF 42 (D. Nev.
23 April 21, 2021).

24 106. On June 4, 2021, FWS issued a 12-month finding concluding that listing of Tiehm's
25 buckwheat as an endangered species was warranted. U.S. Fish and Wildlife Service, *Endangered*
26 *and Threatened Wildlife and Plants; Finding on a Petition To List the Tiehm's Buckwheat as*
27 *Threatened or Endangered*, 87 Fed. Reg. 29975-77 (June 4, 2021). On October 7, 2021 FWS

1 published a proposed rule listing Tiehm's buckwheat as an endangered species, U.S. Fish and
2 Wildlife Service, *Endangered and Threatened Wildlife and Plants; Endangered Species Status for*
3 *Tiehm's Buckwheat*, 86 Fed. Reg. 55775-89 (Oct. 7, 2021), and on February 3, 2022, FWS issued
4 a proposed critical habitat rule, U.S. Fish and Wildlife Service, *Endangered and Threatened*
5 *Wildlife and Plants; Designation of Critical Habitat for Tiehm's Buckwheat*, 87 Fed. Reg. 6101-
6 16 (Feb. 3, 2022). FWS solicited public comment and peer review for the proposed listing and
7 critical habitat rules.

8 107. On December 16, 2022, FWS published a Final Rule listing Tiehm's buckwheat as
9 an endangered species and designating 910 acres of critical habitat. *Listing Rule*, 87 Fed. Reg.
10 77368-401. FWS summarized its findings as follows:

11 We find that Tiehm's buckwheat is in danger of extinction due to the present or
12 threatened destruction, modification, or curtailment of its habitat or range including
13 habitat loss and degradation due to mineral exploration and development, road
14 development and OHV use, livestock grazing, and nonnative, invasive plant species
15 . . . ; herbivory . . . ; and climate change. . . . Of these, we consider mineral
exploration and development and herbivory to be the greatest threats to Tiehm's
buckwheat. The existing [BLM and State] regulatory mechanisms . . . are
inadequate to protect the species from these threats.

16 *Id.* at 77385-86.

17 108. FWS's findings were based on a May 2022 Species Status Assessment (SSA). *See*
18 *generally* SSA. FWS explained that the SSA "documents the results of [a] comprehensive
19 biological review of the best scientific and commercial data regarding the status of the species,
20 including an assessment of the potential threats to the species." *Listing Rule*, 87 Fed. Reg. at 77373.
21 The SSA underwent peer review by three scientists "with expertise in botany, rare plant
22 conservation, and plant ecology." *Id.* at 77369.

23 109. The Final Listing rule explains that Tiehm's buckwheat's small population and
24 highly restricted range place the species at a heightened risk of extinction, particularly in
25 combination with the habitat fragmentation that frequently accompanies mining and other types of
26 large-scale industrial development:

27

1 Rare plant species, like Tiehm’s buckwheat, that have restricted ranges, specialized
 2 habitat requirements, and limited recruitment and dispersal, have a higher risk of
 3 extinction due to demographic uncertainty and random environmental events
 4 Additionally, habitat fragmentation poses specific threats to species through genetic
 5 factors such as increases in genetic drift and inbreeding, together with a potential
 6 reduction in gene flow from neighboring individuals or subpopulations The
 7 effects of habitat fragmentation from the proposed Rhyolite Ridge lithium-boron
 8 project on Tiehm’s buckwheat may be compounded by the inherently poor dispersal
 9 of the species and its specific soil requirements.

10 *Id.* at 77373-74.

11 110. The Final Listing Rule considered an earlier (2022) version of the Mine Plan that,
 12 like the authorized Plan, would have avoided occupied Tiehm’s buckwheat habitat but eliminated
 13 a substantial portion of the designated critical habitat (38 percent as opposed to the approved Plan’s
 14 22 percent). FWS found that even with the avoidance of direct impacts to occupied habitat, the
 15 2022 Mine Plan posed an imminent and substantial extinction risk:

16 To the east, subpopulations 3, 4, 5, 6, and 7 would be concerningly close to a 960-
 17 ft (293 m) deep open-pit quarry and when mining is complete, a terminal quarry
 18 lake In addition, over-burden storage facilities are proposed on the west side
 19 of subpopulations 3, 4, 5, 6, and 7 The combination of the quarry development
 20 and over-burden storage facilities are projected to disturb and remove up to 38
 21 percent of critical habitat for this species, impacting pollinator populations, altering
 22 hydrology, removing soil, and risking subsidence.

23 *Id.* at 77375.

24 111. The Final Listing Rule and SSA include a detailed analysis of potential impacts
 25 from mining. FWS considered four potential future scenarios: one “baseline” scenario in which
 26 the Project is not approved, two others that include approval of the Project with varying degrees
 27 of natural threats, and a fourth that includes approval of multiple mining projects. SSA at 7. FWS
 28 found that both “Project approval” scenarios would significantly increase the risk of extinction,
 29 though not to the same degree as the approval of multiple mining projects. *Id.*

30 112. The Final Listing Rule noted that Subpopulation 6—which would be less than 200
 31 feet from a waste rock dump under the approved Mine Plan—“may be the most resilient of the
 32 eight Tiehm’s buckwheat subpopulations,” and that loss of this population “may have an immense
 33

1 impact on the overall resiliency and continued viability of the species, beyond just the loss of
 2 individuals” *Final Listing Rule*, 87 Fed. Reg. 77374.

3 113. The Final Listing Rule also discussed the negative impacts of dust deposition from
 4 mining operations:

5 Dust deposition, often a result of vehicle traffic on roads, negatively affects the
 6 physiological processes of plants including photosynthesis, reproduction,
 7 transpiration, water use efficiency, leaf hydraulic conductance, and stomatal
 8 disruption that impedes the ability of the stomata to open and close effectively . . .
 9 Physiological disruption to Tiehm’s buckwheat individuals from dust generated
 from vehicular traffic associated with the proposed Rhyolite Ridge lithium-boron
 project would likely negatively affect the overall health and physiological processes
 of the population.

10 *Id.*

11 114. FWS further acknowledged ongoing adverse impacts from livestock grazing, OHV
 12 use, and invasive species, *id.* at 77375-76, and noted that mine development could interact
 13 synergistically with these ongoing threats to increase the risk of extinction:

14 Road development and vehicle traffic associated with the proposed mine as well as
 15 livestock grazing, which currently occurs within Tiehm’s buckwheat population as
 16 part of BLM’s Silver Peak allotment, may create conditions that further favor the
 17 establishment of nonnative, invasive species within Tiehm’s buckwheat habitat.
 18 For example, Ioneer’s Rhyolite Ridge lithium-boron project proposes to construct
 19 and operate a quarry, processing plant, overburden storage facility, spent ore
 storage facility, and access roads If the project is approved, and these ground-
 disturbing activities occur, there is a potential for increase in spread of nonnative,
 invasive plant species.

20 *Id.* at 77375-76.

21 115. The Final Listing Rule concludes: “we find that the threat of mining continues to
 22 be of such magnitude that taken in combination with other threats described in this rule, Tiehm’s
 23 buckwheat is in danger of extinction throughout all of its range.” *Id.* at 77382.

24 116. The Final Listing Rule designates 910 acres of critical habitat for Tiehm’s
 25 buckwheat. FWS determined, based on the best scientific and commercial information available,
 26 that this designated critical habitat area contains the physical and biological features (PBFs)
 27 “necessary to the conservation of Tiehm’s buckwheat.” *Id.* at 77383.

1 117. In identifying PBFs, FWS focuses on “specific features that are essential to support
2 the life-history needs of the species.” *Id.* at 77388. The Final Listing Rule identifies the following
3 PBFs for Tiehm’s buckwheat’s critical habitat:

- 4 1. Plant community. A plant community that supports all life stages of Tiehm’s
5 buckwheat includes:
 - 6 a. Open to sparsely vegetated areas with low native plant cover and stature.
 - 7 b. An intact, native vegetation assemblage that can include, but is not
8 limited to, shadscale saltbush, James’ galleta, and alkali sacaton to
9 protect Tiehm’s buckwheat from nonnative, invasive plant species and
 provide the habitats needed by Tiehm’s buckwheat’s insect visitors and
 pollinators.
 - 10 c. A diversity of native plants whose blooming times overlap to provide
11 insect visitors and pollinator species with flowers for foraging
12 throughout the seasons and to provide nesting and egg-laying sites;
 appropriate nest materials; and sheltered, undisturbed habitat for
 hibernation and overwintering of pollinator species and insect visitors.
- 13 2. Pollinators and insect visitors. Sufficient pollinators and insect visitors,
14 particularly bees, wasps, beetles, and flies, are present for the species’
 successful reproduction and seed production.
- 15 3. Hydrology. Hydrology that is suitable for Tiehm’s buckwheat consists of dry,
16 open, relatively barren, upland sites subject to occasional precipitation from
 rain and/or snow for seed germination.
- 17 4. Suitable soils. Soils that are suitable for Tiehm’s buckwheat consist of:
 - 18 a. Soils with a high percentage (70–95 percent) of surface fragments that
19 is classified as clayey, smectitic, calcareous, mesic Lithic Torriorthents;
20 clayey-skeletal smectitic, mesic Typic Calcicargids; and clayey,
 smectitic, mesic Lithic Haplargids.
 - 21 b. Soils that have a thin ((0–5.5 in (0–14 cm)) A horizon, B horizons that
22 are present as Bt (containing illuvial layer of lattice clays) or Bw
 (weathered), C horizons that are not always present, and soil depths to
 bedrock that range from 3.5 to 20 in (9 to 51 cm).
 - 23 c. Soils characterized by a variety of textures, and include gravelly clay
24 loam, sand, clay, very gravelly silty clay, and gravelly loam.
 - 25 d. Soils with pH greater than 7.6 (i.e., alkaline) in all soil horizons.

- e. Soils that commonly have on average boron and bicarbonates present at higher levels, and potassium, zinc, sulfur, and magnesium present at lower levels.

Id. at 77390-91.

118. FWS determined that a 500-meter buffer around occupied habitat was necessary to encompass all PBFs and maintain the plant-pollinator interactions that are essential for Tiehm's buckwheat's survival and recovery. *See id.* at 77383. While some public commentators attempted to downplay the importance of the local pollinator community and suggested that a more limited critical habitat designation was appropriate, FWS found these recommendations to be incompatible with the best available scientific information. As the Final Listing Rule explains:

[W]e are using the best available nesting, egg-laying, and foraging information for bee, wasp, beetle, and fly pollinator and insect visitors of Tiehm's buckwheat to define the critical habitat boundary. Principles of conservation biology stress the importance of maintaining the largest areas of contiguous habitat possible with the least amount of fragmentation. We considered other boundary options for critical habitat; however, our boundary captures pollinator and insect visitor overlap among subpopulations as well as other PBFs necessary to the conservation of Tiehm's buckwheat.

Id. at 77384.

119. FWS stressed that it was necessary to protect the unoccupied areas surrounding all Tiehm's buckwheat subpopulations in order to maintain plant-pollinator relationships because "most insect communities are known to be influenced not only by local habitat conditions, but also the surrounding landscape conditions." *Id.* at 77392.

120. FWS also acknowledged that some areas outside the final critical habitat designation may be important to the conservation of Tiehm's buckwheat:

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, may continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act

1 for Federal agencies to ensure their actions are not likely to jeopardize the continued
 2 existence of any endangered or threatened species.

3 *Id.* at 77388.

4 121. The Final Listing Rule and critical habitat designation found that offsite
 5 propagation and translocation were not viable conservation strategies for Tiehm's buckwheat,
 6 explaining that "we do not have any scientific evidence to support the theory that Tiehm's
 7 buckwheat has the ability to grow and persist at locations other than where it currently occurs." *Id.*
 8 at 77385.

9 122. The Final Listing rule concluded with a list of activities that may be considered
 10 likely to destroy or adversely modify Tiehm's buckwheat's critical habitat:

11 Activities that the Service may, during a consultation under section 7(a)(2) of the
 12 Act, consider likely to destroy or adversely modify the critical habitat of Tiehm's
 13 buckwheat include, but are not limited to, actions that are likely to cause large-scale
 14 habitat impacts, adversely affecting the PBFs at a scale and magnitude such that the
 15 designated critical habitat would no longer be able to provide for the conservation
 16 of the species. Examples include removing pollinator habitat and corridors for
 17 pollinator movement and seed dispersal; significantly disrupting the native
 18 vegetative assemblage, seed bank, or soil composition and structure; or
 19 significantly fragmenting the landscape and decreasing the resiliency and
 20 representation of the species throughout its range.

21 *Id.* at 77393.

22 **C. The Project**

23 *i. Permitting and Additional Exploration*

24 123. A mere five days after FWS listed Tiehm's buckwheat and designated critical
 25 habitat, and despite the loss of 60% of the global population to herbivory and ongoing impacts
 26 from livestock and off-road vehicles, BLM officially began the NEPA process for the Rhyolite
 27 Ridge Mine by announcing a 30-day "scoping period" in the Federal Register. BLM, *Notice of*
Intent To Prepare an Environmental Impact Statement for Ioneer Rhyolite Ridge LLC's Proposed
Rhyolite Ridge Lithium-Boron Mine Project, Esmeralda County, NV, 87 Fed. Reg. 77879 (Dec.
 20, 2022). BLM never considered whether the listing or Tiehm's buckwheat or the numerous

1 threats to the species impacted the suitability of the Rhyolite Ridge area for large-scale, open-pit
2 mine development.

3 124. BLM also authorized additional disturbance in Tiehm's buckwheat critical habitat.
4 On December 26, 2022, visitors to Rhyolite Ridge discovered a significant new amount of mining-
5 related activity including construction equipment, water trucks, and drill rigs. New roads had been
6 bladed. While the majority of this activity was outside the Tiehm's buckwheat critical habitat, an
7 equipment staging area was located within Tiehm's buckwheat critical habitat at the junction of
8 Cave Springs Road and the road bisecting subpopulations 1 and 2, which contained a porta-potty,
9 water bladder, truck, explosives storage, and a material laydown yard.

10 125. This new disturbance was authorized by BLM as a "special use" under 43 C.F.R.
11 Part 2920, not under the Mining Law, and as a result Plaintiffs were not notified of this new activity
12 as required under the January 2020 settlement agreement with Ioneer discussed above. *See Letter*
13 from the Center for Biological Diversity to BLM and FWS re: Unauthorized Use and Occupation
14 of Bureau of Land Management Lands; Adverse Modification of Critical Habitat; and Unlawful
15 Use of a Categorical Exclusion from the National Environmental Policy Act (Jan. 12, 2023).
16 Plaintiffs documented this new disturbance and submitted a report to BLM. *See id.* BLM did not
17 notify the public, conduct a full NEPA analysis, or enter into formal consultation with FWS
18 regarding this new authorized disturbance. *Id.*

19 126. In April 2024, BLM issued the Draft Environmental Impact Statement (DEIS) for
20 the proposed mine in a confusing and disorganized manner. BLM issued a press release on Friday,
21 April 12, 2024 stating that BLM was "seeking public comment on a draft environmental impact
22 statement for the proposed Rhyolite Ridge Lithium-Boron Mine Project." Center for Biological
23 Diversity et al., Comments on the Rhyolite Ridge Lithium-Boron Mine Draft EIS 12 (June 3, 2024)
24 [hereinafter "DEIS Comments"]. The Press Release also stated that "[p]ublication of the draft EIS
25 for the proposed mine opens a 45-day public comment period, ending on May 27, 2024." *Id.*
26 However, BLM did not actually publish the DEIS on that date; nor did BLM issue the legally
27 required notices in the Federal Register. *Id.* BLM then informed Plaintiffs that it would not publish

1 the Draft EIS for another week. However, four days later, on Tuesday, April 16, 2024 BLM
 2 surreptitiously posted the DEIS and certain supporting documents on its “eplanning” website with
 3 no additional public notification. *Id.* Again, BLM did not publish the federal register notice that is
 4 required to accompany a Draft EIS. Finally, on Friday, April 19th, 2024 BLM issued a federal
 5 register notice and changed its previously issued press release to state the correct comment
 6 deadline. *Id.*

7 127. The Draft EIS described two alternative configurations for the proposed mine—the
 8 “Proposed Action” and the “North and South OSF Alternative.” Bureau of Land Management,
 9 Rhyolite Ridge Lithium-Boron Project Draft Environmental Impact Statement (September 2024)
 10 [hereinafter, “DEIS”], at 2-1 to 2-21. Both alternatives would entail the dumping of waste rock,
 11 road construction, and the excavation of a mine pit within Tiehm’s buckwheat’s designated critical
 12 habitat. *Id.* The Proposed Action would eliminate 354 acres, or 38 percent of the species’ total
 13 designated critical habitat, while the DEIS North and South OSF Alternative would eliminate 197
 14 acres, or 22 percent of designated critical habitat. *Id.* Both alternatives would have similar—and
 15 significant—impacts on wildlife, groundwater resources, springs and wetlands, Native American
 16 cultural and spiritual values, environmental justice, and other resources. *See id.* at 4-1 to 4-76.

17 128. BLM regularly provides the public up to 90 days to comment on a DEIS for a major
 18 mining project. *See, e.g., See* BLM, Dear Reader Letter for the Mount Hope Project Draft
 19 Environmental Impact Statement, (November 29, 2011); BLM, Abstract, Draft Environmental
 20 Impact Statement for the Pan Mine Project (March 8, 2013). However, for the proposed mine,
 21 BLM provided just 45 days for the public to review and comment on the DEIS and its supporting
 22 reports and appendices, which together ran over 2,000 pages. Plaintiffs, as well as the Timbisha
 23 Shoshone Tribe and multiple other non-governmental organizations (NGOs) requested an
 24 extension of the 45-day comment period, but BLM denied all of these requests. *See* FEIS Appendix
 25 A, Public Comments and Responses.

26 129. Despite the abbreviated comment period, Plaintiffs submitted extensive comments
 27 on the DEIS urging BLM to select neither the Proposed Action nor the North and South OSF

1 Alternative because either alternative would violate the ESA, FLPMA, and NEPA, and federal
2 laws and policies concerning the protection of Native American cultural resources. *See generally*
3 DEIS Comments. Plaintiffs' comments also included detailed analysis of the DEIS, Mine Plan,
4 and Ioneer's proposed mitigation measures from subject-matter experts in rare plant conservation,
5 hydrology, geology, mine engineering, and air pollution.

6 130. Dr. Naomi Fraga, an expert in rare plant conservation at the California Botanic
7 Garden, submitted comments on the DEIS and Ioneer's proposed "buckwheat protection plan."
8 *See generally* Fraga 2024a. Dr. Fraga's report described the known habitat requirements of
9 Tiehm's buckwheat, reviewed the results of relevant peer-reviewed publications, including a 2020
10 Ioneer-funded study by McClinton and others, and evaluated the Project's likely impacts on
11 Tiehm's buckwheat and the efficacy of the proposed minimization and mitigation measures.

12 131. Dr. Fraga noted that Tiehm's buckwheat is "at extreme risk of endangerment and
13 extinction" due to its small population, limited range, and specialized habitat requirements. *Id.* at
14 6.

15 132. Dr. Fraga found that Ioneer's proposed "direct avoidance" would not be effective
16 in protecting Tiehm's buckwheat and the ecosystem it relies upon for survival due to the numerous
17 indirect impacts from mining, including habitat loss and fragmentation, invasive species, impacts
18 to pollinators and pollinator habitat, and dust deposition. *Id.* at 3-4.

19 133. Dr. Fraga examined the threat of invasive species and reported that Ioneer's
20 exploration activities have already resulted in the proliferation of the invasive species *H.*
21 *glomeratus* throughout all subpopulations and designated critical habitat, in addition the
22 establishment of several other invasives, including tumbleweed (*Salsola australis*) and pigweed
23 amaranth (*Amaranthus albus*). *Id.* at 13. She further noted that reclamation efforts to date have
24 been unsuccessful, and found that the proposed mitigation and minimization measures for invasive
25 species could not be considered reliable or effective because a weed management plan had not
26 been developed. *Id.* at 12.

27

1 134. Dr. Fraga's report explained that dust deposition from mining operations has
 2 numerous adverse impacts on plant life, and that "[t]he Project has the potential to greatly increase
 3 the quantity and rates of dust deposition on plants of Tiehm's buckwheat from the construction of
 4 new facilities, use of access and haul roads, and blasting a 960 ft [pit] mere feet away from
 5 occupied habitat." *Id.* at 8-9. Dr. Fraga cited and discussed numerous studies on the impacts of
 6 dust deposition, including a 2007 study by Padgett and others involving a related species of
 7 buckwheat, which found that "plants growing within 1 [kilometer] of unprotected mining
 8 stockpiles were in degraded habitats and highly impacted by dust deposition." *Id.* at 8. She further
 9 explained that Ioneer's chosen dust deposition threshold of 4g/m²/day was arbitrary and
 10 inappropriate because it was based on a study of a species with different physical characteristics,
 11 a different life-cycle, and different habitat requirements. *Id.* at 9. She explained that the DEIS and
 12 buckwheat protection plan failed to present information supporting the effectiveness and feasibility
 13 of the proposed dust minimization measures, and noted that the DEIS failed to consider the
 14 potential for these measures to accelerate the spread of invasive species. *Id.* at 9.

15 135. Dr. Fraga's report examined the Project's impacts to pollinators and pollinator
 16 habitat and concluded that these impacts, in combination with the proposed mine's numerous other
 17 adverse impacts, posed an existential risk to Tiehm's buckwheat. *Id.* at 11-12. Dr. Fraga further
 18 explained that the proposed pollinator habitat reclamation could not be considered effective or
 19 reliable because: (1) a reclamation plan has not been developed, (2) Ioneer admits that "the
 20 reclaimed ecosystem is not expected to be similar to the undisturbed native ecosystem in critical
 21 habitat," (3) ecosystem restoration in arid environments is challenging, with high rates of failure,
 22 and (4) the proposed restoration methods are vague, experimental, and/or inappropriate for arid
 23 environments. *Id.* at 18-19.

24 136. Finally, Dr. Fraga concluded that offsite propagation and translocation was not a
 25 viable conservation strategy for Tiehm's buckwheat.

26 137. Dr. Michael C. McCarthy, an expert in air quality, land-use planning, and
 27 environmental analysis, submitted a report on the DEIS's analysis of dust deposition and the

1 proposed minimization measures. *See generally* Michael C. McCarthy, Ph.D., Review of Dust
2 Deposition and Suppression Impacts on Tiehm’s Buckwheat from the Rhyolite Ridge Lithium-
3 Boron Project (May 31, 2024) [hereinafter, “McCarthy 2024a”]. Dr. McCarthy found that the
4 DEIS and supporting documents underestimated dust deposition within Tiehm’s buckwheat
5 critical habitat because they relied on computer modeling that only included one source of fugitive
6 dust—the haul road. The dust deposition modeling ignored emissions from other sources including
7 pit blasting, pit excavation, waste rock loading and dumping, service roads, watering trucks, and
8 wind erosion.

9 138. In addition, Dr. McCarthy found that Ioneer and BLM made unfounded and
10 unrealistic assumptions about the properties of the materials that would be used to build the
11 Project’s roads, further underestimating total dust emissions. Dr. McCarthy noted that the proposed
12 mitigation and minimization measures would have indirect impacts on Tiehm’s buckwheat and its
13 critical habitat, including resuspension and deposition of various herbicides and chemical dust
14 suppressants, and these impacts were entirely ignored in the DEIS. Finally, Dr. McCarthy found
15 that the proposed dust minimization measures could not be considered feasible or effective because
16 BLM and Ioneer had failed to account for the substantial amounts of water required (up to roughly
17 50 percent of the Project’s total annual water budget), and failed to consider adverse environmental
18 impacts from the proposed rates of water application.

19 139. Dr. Steven H. Emerman submitted a report analyzing the stability of the mine pit
20 and Ioneer’s proposed monitoring and mitigation measures. *See generally* Steven H. Emerman,
21 Ph.D., Assessment of the Operating and Post-Closure Stability of the Open Pit and the Proposed
22 Ioneer Rhyolite Ridge Lithium-Boron Mine, Esmeralda County, Southwestern Nevada (May 26,
23 2024) [hereinafter “Emerman 2024a”]. Dr. Emerman found that the DEIS and supporting
24 documents failed to articulate a factual basis for selecting a “factor of safety” of 1.2 during
25 operations and 1.8 following closure. Dr. Emerman further explained that these factors of safety
26 were insufficient compared with mining industry standards, and in light of the catastrophic
27 consequences of pit-wall failure (the nearest Tiehm’s buckwheat plant would be only 15 feet from

1 the edge of the pit). Dr. Emerman noted that information presented in the DEIS and supporting
2 documents could not be considered reliable because BLM and Ioneer failed to account for
3 substantial uncertainty in the data supporting their analysis. Dr. Emerman also explained that BLM
4 and Ioneer had failed to disclose other important aspects of the pit wall design, including the
5 overall probability of pit-wall failure and the size of the zone of geologic instability that would
6 surround the pit. Dr. Emerman concluded that Ioneer's proposed monitoring and mitigation
7 measures were inadequate because no plan had been developed and no specific mitigation
8 measures had been proposed.

9 140. In addition to these reports from subject-matter experts, BLM received a letter
10 signed by over 100 scientists across the U.S., expressing concern that the Project as proposed
11 would result in the extinction of Tiehm's buckwheat. The scientists' letter stated in part:

12 The Mine will cause significant impacts up to and including the potential extinction
13 of Tiehm's buckwheat . . . No mitigation measures will sufficiently address these
14 impacts to appreciably reduce the risk of extinction.

15 The pit, haul road, and waste rock dump would directly and irreparably destroy
16 22% of the designated critical habitat for *Eriogonum tiehmii*. This would result in
17 a significant loss of pollinator habitat, which is essential for the conservation of *E.
tiehmii*. However, the preferred alternative would in all actuality degrade the
18 entirety of the critical habitat to the point that it would no longer support the
conservation of *E. tiehmii*. The haul road and the wall of the open pit come within
15 feet of *E. tiehmii* populations. Putting mine infrastructure in such close
proximity to the plant is putting it on a path to extinction.

19 This magnitude of impact would compromise and fundamentally alter habitat
20 integrity, pollination, and dispersal which is further exacerbated by the species'
21 limited habitat availability (e.g. suitable soil) and inherent poor dispersal
capabilities, ultimately affecting the long-term survival of the species.

22 Letter from Dr. Naomi Fraga, Dr. Peter H. Raven, Dr. Ben Grady, and others to the U.S. Bureau
23 of Land Management, Battle Mountain District Office, re: Rhyolite Ridge Lithium-Boron Mine
24 EIS and Impacts to Tiehm's buckwheat (June 3, 2024).

25 141. Despite the significant issues raised in comments, BLM followed a highly
26 accelerated schedule for mine permitting compared to other, similar projects on BLM lands in
27 Nevada. According to internal BLM documents obtained by Plaintiffs through the Freedom of

1 Information Act (FOIA), BLM set a “very aggressive schedule” for mine permitting that
2 “deviat[ed] from other project schedules on similar projects completed recently and concurrently”
3 by the Battle Mountain BLM District and State BLM office. Email from Scott Distel, BLM, to
4 Doug Furtado, BLM, re: Rhyolite Ridge Permitting (December 21, 2023). In order to meet the
5 accelerated schedule for permitting, BLM:

6 “Significantly change[d] timelines” for internal and inter-agency environmental
7 review “without prior coordination with [the reviewing personnel].”

8 Assumed, before receiving public comments, that such comments “are specific and
9 provide direction on how to be resolved.”

10 Assumed that mitigation measures—many of which have yet to be developed—
11 “do[] not require additional NEPA analysis or baseline [studies].”

12 Assumed that forthcoming comments on the project from cooperating agencies
13 would not be “significant” and would not “require new analysis or additional
14 information to be incorporated.”

15 Assumed that “[n]o comments” would be received “that [require] input from BLM
16 or Ioneer in responding to.”

17 Assumed that the DOI Solicitor’s Office would “have no significant comments and
18 do not require new analysis or additional information to be incorporated.”

19 Assumed that public comments would be “minimal,” and that “no more than 100
20 individual comments” would be received.

21 *Id.*

22 142. On September 14, 2024, Plaintiffs discovered that Tiehm’s buckwheat has recently
23 suffered herbivory damage similar to the event of October 2021, which eliminated 60 percent of
24 the total population. Damage has occurred to subpopulations 1-4, 5, and 6 with the vast majority
25 of damage occurring in subpopulation 1. *See* Fraga 2024b, Appendix B. Approximately 30 percent
26 of plants in subpopulation 1 have been damaged, and the damage is concentrated at lower
27 elevations closest to a road that bisects the designated critical habitat between subpopulations 1
and 2. *Id.* Three distinct forms of damage have been observed: mechanical damage including
removal of large portions of stems; digging and stripping of roots; and denuding of leaves at the

1 base of the stem. *Id.* Dr. Fraga surveyed the impacts on September 21, 2024 and estimates that the
2 damage occurred in August 2024. *Id.*

3 143. On September 19, 2024, BLM released the Final Environmental Impact Statement
4 (FEIS) for the Project. The FEIS contains the same two Project alternatives as the DEIS—the
5 Proposed Action and North and South OSF Alternative. The FEIS selects the North and South
6 OSF Alternative as BLM’s “preferred” alternative.

7 144. The approved Project configuration requires Ioneer to obtain a “major
8 modification” to the Project’s water pollution control permit from the Nevada Department of
9 Environmental Protection (NDEP). Ioneer has applied for, but has not received a major permit
10 modification from NDEP. The Project also requires an updated air pollution control permit from
11 NDEP, which Ioneer has not yet applied for.

12 145. The FEIS includes a Final BiOp from FWS, dated September 4, 2024, concluding
13 that the mine will not jeopardize the continued existence of Tiehm’s buckwheat and will not
14 adversely modify its critical habitat. *See generally* BiOp. FWS finalized the BiOp on September
15 4, 2024, less than a month after BLM began formal ESA consultation by submitting its Biological
16 Assessment (BA). *Id.* The BiOp concludes that the Project will not destroy or adversely modify
17 critical habitat for the same reasons as it reaches the “no jeopardy” conclusion. *See id.* at 56-62.
18 The BiOp reaches its “no jeopardy” and “no adverse modification” conclusions despite
19 considerable uncertainty as to the nature and extent of the Project’s impacts on Tiehm’s
20 buckwheat.

21 146. BLM made minimal changes to the Project design between the DEIS and Final EIS.
22 *See generally* FEIS Appendix A: Public Comments and Responses. The North and South OSF
23 Alternative presented in the FEIS retains the same components, in the same configuration, as the
24 DEIS alternative, with the exception of the haul road, which was slightly re-routed but would still
25 be located in Tiehm’s buckwheat critical habitat in close proximity to subpopulation 3.

26 147. BLM, FWS and Ioneer failed to consider or address the vast majority of the
27 substantive comments Plaintiffs others submitted concerning the DEIS. For example, the FEIS and

1 BiOp: do not address Dr. Fraga’s findings regarding invasive species in Tiehm’s buckwheat
 2 habitat; do not consider or respond to Dr. Fraga’s analysis showing that BLM
 3 selected an inappropriate and unsupported threshold for dust deposition; do not include details or
 4 specific plans regarding pollinator habitat reclamation; do not consider various indirect effects to
 5 pollinator habitat; do not explain BLM’s rationale in selecting a factor of safety of 1.2; do
 6 not include a dust deposition analysis that considers all sources of fugitive dust; and do not consider
 7 the potential adverse impacts to Tiehm’s buckwheat and its habitat from the proposed weed control
 8 dust suppression measures; and do not account for the large volumes of water that would be
 9 required for adequate dust suppression.

10 148. Plaintiffs again submitted detailed comments on the FEIS, BiOp, and supporting
 11 documents. In addition, Drs. Fraga, McCarthy, and Emerman submitted responses to the FEIS and
 12 BiOp.

13 149. Dr. Fraga noted that: the BiOp minimizes the magnitude of the invasive species
 14 threat, “leading to a minimized threat forecast . . . and an incorrect finding of no adverse impact”;
 15 several plans for minimization, mitigation, and reclamation, including an invasive species
 16 management plan, had still not been drafted and could therefore not be evaluated; the BiOp ignored
 17 the effects of habitat fragmentation and the cumulative impacts of various Project components; the
 18 BiOp failed to consider adverse impacts to pollinator habitat from water and herbicide application;
 19 and that the BiOp’s analysis of impacts to pollinator habitat relied on unsubstantiated assumptions.
 20 *See generally* Fraga 2024b. Dr. Fraga’s report included appendices documenting the current status
 21 of invasive species in Tiehm’s buckwheat critical habitat and the impacts from the most recent
 22 herbivory event in the summer of 2024. *Id.*

23 150. Regarding invasive species, Dr. Fraga found that *Halogeton glomeratus* had equal
 24 to greater cover than Tiehm’s buckwheat in all subpopulations, and had increased significantly
 25 throughout the species’ since it was first observed in 2019. *See id.*, Appendix A.

26 151. Dr. McCarthy reiterated his earlier points about the dust deposition analysis, as
 27 BLM and FWS provided no substantive response to his DEIS comments. *See generally* Michael

1 C. McCarthy, Ph.D., Review of Dust Deposition and Suppression Impacts on Tiehm's Buckwheat
 2 from the Rhyolite Ridge Lithium-Boron Project (Oct. 15, 2024) [hereinafter, "McCarthy 2024b"].

3 152. Dr. Emerman's report likewise explained that BLM and FWS had provided no
 4 substantive response to his earlier comments and had not supplied a basis for the choice of a 1.2
 5 factor of safety, accounted for uncertainty in the geologic data, or considered the probability of pit
 6 wall failure. *See generally* Letter from Steven H. Emerman, Ph.D. to Patrick Donnelly, Center for
 7 Biological Diversity re: Rhyolite Ridge Project (Oct. 11, 2024) [hereinafter, "Emerman 2024b"].

8 153. On October 24, 2024, BLM issued the Project ROD. The ROD selects the North
 9 and South OSF Alternative and authorizes Ioneer to begin exploration and construction upon the
 10 approval of reclamation bonding.

11 154. The ROD authorizes a "phased bonding" approach under which BLM will allow
 12 Ioneer to submit financial guarantees in successive stages for "specified activities," each of which
 13 must be individually reviewed and approved prior to authorization. The first activity that Ioneer
 14 will bond for is 35 acres of exploration, an unspecified portion of which will occur within Tiehm's
 15 buckwheat critical habitat and as close as 15 feet to occupied habitat. After Ioneer submits and
 16 BLM accepts an initial bond of \$275,301, Ioneer will be authorized to commence surface-
 17 disturbing activity in critical habitat.

18 155. While BLM was undertaking its purported objective review of the Project, on
 19 January 13, 2023, the U.S. Department of Energy granted a "conditional commitment to lend up
 20 to \$700 million to Ioneer Rhyolite Ridge LLC to develop a domestic supply of lithium carbonate
 21 for electric vehicle (EV) batteries from the Rhyolite Ridge Lithium-Boron Project (Rhyolite
 22 Ridge) in Esmeralda County, Nevada."²

26 _____
 27 ² See <https://www.energy.gov/lpo/articles/lpo-announces-conditional-commitment-ioneer-rhyolite-ridge-advance-domestic-production> (viewed October 28, 2024).

1 *ii. The Approved Project and its Environmental Impacts*

2 156. The approved North and South OSF Alternative would disturb 2,266 acres within
3 a 7,166 acre project area. BA at 3-1; FEIS at 2-18. Approximately 191 acres of Tiehm's buckwheat
4 critical habitat would either be lost to the mine pit or buried under waste rock dumps. BA at 3-10.
5 The Project also includes an access road and infrastructure route approximately 13 miles long that
6 extends into Fish Lake Valley. BA at 3-1.

7 157. The Project will proceed in three phases: construction, operation, and
8 closure/reclamation. Construction will last approximately four years and require a workforce of
9 approximately 400 to 500 persons working six 10-hour shifts per week. BA at 3-2, 3-4. This will
10 require approximately eight to 14 daily trips by passenger busses to transport workers, in addition
11 approximately 10 individual vehicles (pickups or passenger cars) for management personnel. *Id.*
12 at 3-2.

13 158. During the operations phase, the mine will operate 24 hours per day, 365 days per
14 year, for 17-18 years. BA at 3-2; 3-4. Operations will require a workforce of approximately 350
15 persons. *Id.* at 3-2. During operations, busses carrying up to 30 passengers will transport workers
16 to and from the Project site five to nine times per day. *Id.*

17 159. Construction and operations, including the mine components located in Tiehm's
18 buckwheat critical habitat, would utilize a variety of heavy equipment; as described in the Mine
19 Plan of Operations (Mine Plan):

20 Conventional, diesel-powered equipment (blast-hole drills, dozers, off-highway 40-
21 and 150-ton haul trucks, and hydraulic shovel backhoe excavators/front end
22 loaders) will be used for the Project. Dozers and graders will be used to maintain
23 roads, growth media stockpiles, the OSFs, and the SOSF. Front-end loaders will be
24 used in conjunction with crushers at the ore stockpile and crushing area located at
25 the Processing Plant Area. Haul trucks/articulated dump trucks will be used to
26 transport overburden, raw ore, spent ore, and processing solids. Water trucks will
27 be utilized for road maintenance and dust control throughout the life of the Project.
Utility vehicles will be used to access communication towers and other facilities as
needed.

1 Ioneer Rhyolite Ridge LLC, Mine Plan of Operations/Nevada Reclamation Permit Application,
2 Ioneer Rhyolite Ridge Lithium-Boron Project, Esmeralda County, Nevada, Revision No.7
3 (September 2024), [hereinafter “Plan” or “Mine Plan”] at 15.

4 160. Additional equipment will be utilized during planned surface disturbance for
5 exploration, dewatering, and water supply facilities, including drill rigs of various types (including
6 core, rotary, and hollow stem auger), backhoes for digging sumps, water trucks, tractor-trailers,
7 light pickup trucks, and “other support vehicles as needed.” *Id.*

8 161. Roads will be constructed to and between major Project facilities. *Id.* at 24. Two
9 primary types of roads will be constructed: service roads and haul roads. *Id.* Service roads will be
10 constructed as a means to move equipment and supplies between the various Project components
11 as well as to provide for light vehicle traffic. These service roads will be approximately 20 feet
12 (nominal) wide plus shoulders. *Id.* Haul roads, constructed with a waste rock from the pit, will
13 allow haul trucks to transport ore, overburden, and spent ore between the pit, processing facility,
14 waste rock dumps, and tailings dump, with enough space incorporated into the design to allow for
15 safe passage of two 150-ton haul trucks as well as sufficient room for safety berms and surface
16 water runoff control systems. *Id.*

17 162. In addition, Ioneer plans to realign two existing roads in the Project area, the Cave
18 Springs Road and the Argentite Canyon Road. *Id.* at 24-25. The Cave Springs Road, also known
19 as Cave Springs Road-Coyote Summit, is a public road currently maintained by Esmeralda County
20 that bisects the Project area and runs through Tiehm’s buckwheat critical habitat. *Id.*
21 Approximately 4.7 miles of this road will be realigned, including the segment within critical
22 habitat. *Id.*; BA at 3-24. Argentite Canyon Road is a public road currently maintained by Esmeralda
23 County that intersects the Cave Springs Road and provides access through the southern portion of
24 the Project Area. Plan at 25. This public road will require an approximately 0.9-mile realignment
25 to accommodate the pit. *Id.*

26
27

1 163. The mine pit will be 960 feet deep and span over 200 acres. Plan at 13. Part of the
2 pit will be located in Tiehm's buckwheat critical habitat, *id.* and the edge of the pit will be only 15
3 feet from occupied habitat in subpopulation 3. BiOp at 42.

4 164. The pit will be excavated using explosives and heavy equipment. Plan at 14. Ioneer
5 plans to remove approximately 25 million tons of lithium-boron ore and 406 million tons of waste
6 rock from the pit—a total of 431 million tons of material. Plan at 14.

7 165. The pit will require continuous dewatering once it reaches the water table at roughly
8 150 feet below the ground. *Id.* at 15. Dewatering wells will be located around the periphery of the
9 pit, including in Tiehm's buckwheat critical habitat. BA at 3-16. Equipment that may be used for
10 construction of dewatering facilities includes drill rigs of various types (including core, rotary, and
11 hollow stem auger), backhoes for digging sumps, water trucks, tractor-trailers, light pickup trucks,
12 and other support vehicles as needed. Plan at 15.

13 166. After mining ceases, groundwater will seep into the pit from the surrounding
14 groundwater aquifer and a pit lake will form. *Id.* at 67.

15 167. The North and South OSF Alternative involves the construction of three waste rock
16 dumps and a tailings dump. Plan at 16. Two of the waste rock dumps will be located in Tiehm's
17 buckwheat critical habitat. The "South OSF" waste rock dump will occupy the southeastern
18 portion of the designated critical habitat. *See id.* It will store approximately 120 million tons of
19 waste rock and reach a maximum overall height of 1,030 feet. *Id.* The "Quarry Infill" waste rock
20 dump will be located in the southern portion of the critical habitat adjacent to the South OSF. *Id.*
21 It will contain 208 million of waste rock at a maximum overall height of 1,600 feet from the pit
22 floor, or 300-640 feet above the ground. *Id.* at 16, 18.

23 168. The "North OSF" waste rock dump will be located north of the pit, within 400 feet
24 of designated critical habitat. *See Plan at 16.* The North OSF will store less waste than the South
25 and Quarry Infill facilities (approximately 77 million tons), and reach a maximum overall height
26 of 700 feet. *Id.*

1 169. The footprints of the waste rock and tailings facilities will be cleared and graded
2 prior to construction. BA at 3-20, Plan at 21. Runoff from the waste rock and tailings dumps will
3 be collected in “contact water ponds.” Plan at 17. The contact water pond for the “South OSF”
4 waste rock dump would be adjacent to Tiehm’s buckwheat critical habitat. *See* BA at 3-21 and
5 Figure 2.

6 170. Haul trucks will be used to transport lithium-boron ore to the processing facility,
7 waste rock to the three waste rock dumps, and the spent materials from the processing plant to the
8 tailings dump. *Id.* at 3-11. During operations, 150-ton haul trucks will make up to 525 round trips
9 per day on the haul road. FEIS at 4-31. Approximately 2,755 feet and 10 acres of haul road will
10 occur within Tiehm’s buckwheat designated critical habitat. BA at 3-13.

11 171. Lithium-boron ore will be transported by truck from the pit to the processing facility
12 where it will dumped into one of two temporary stockpiles: a high-lithium stockpile and high-
13 boron stockpile. Plan at 19. It will then be crushed and fed into a “vat-leach” system, in which
14 sulfuric acid will be used to remove lithium and boron. *Id.*; BA at 3-11. To supply sulfuric acid for
15 the vat-leach process, the Project would include an on-site sulfuric acid manufacturing plant. Plan
16 at 20. Residue from the “vat-leach” process will be dumped at the tailings facility. *Id.* at 19.

17 172. The tailings facility will provide “permanent storage” for approximately 60 million
18 tons of material, including spent ore and sulfate salts. *Id.* at 21. It would cover more than 370 acres
19 and reach a maximum height of 250 feet. *Id.* Ioneer expects the tailings to contain elevated
20 concentrations of salts, sulfate, fluoride, nitrogen, and various metals, including aluminum,
21 magnesium, iron, and sodium. *Id.* Tailings are “expected to retain minor residual acidity in the
22 materials,” and “have the potential to release acidity and drain an acidic sulfate salt solution.” *Id.*
23 at 21.

24 173. Electricity for the Project will be generated on-site using diesel generators and a
25 steam turbine generator at the sulfuric acid plant. Plan at 25. Above-ground powerlines will be
26 constructed to distribute power to the various Project facilities. *Id.*

1 174. On an annual basis, the Project will consume: 81,943 tons of hydrated lime, 73,378
2 tons of soda ash, 12,450 tons of gypsum, 21.5 tons of sodium hydroxide, 1,381,000 tons of sulfuric
3 acid, 120.3 tons of corrosion inhibitor, 300 tons of “biocides,” 3 tons of antiscalant, 7.9 tons of
4 liquid phosphate, 10 tons of oxygen scavenger, 473,916 tons of sulfur, and 4.7 million gallons of
5 diesel fuel. Plan at 30. These materials will be delivered to the site by trucks using the Cave Springs
6 road, which runs directly through Tiehm’s buckwheat critical habitat. This will require
7 approximately 75 to 100 truck trips per day. BA at 3-3. In addition, trucks transporting mine
8 products to customers throughout the U.S. and to the international market will make approximately
9 115 roundtrips to and from the Project site daily. Plan at 15.

10 175. According to the FEIS and Mine Plan, the Project will use approximately 2,500
11 gallons of water per minute, or 4,035 acre-feet per year. Plan at 33. This total does not include the
12 estimated 1,437 gallons per minute or 2,330 acre-feet per year that may be required for adequate
13 dust suppression. *See McCarthy 2024a.*

14 176. Some of the water used in mine operations will come from the pit dewatering wells,
15 but additional water supplies will be required from Fish Lake Valley. Ioneer plans to lease existing
16 agricultural water rights in Fish Lake Valley and pump water from Fish Lake Valley to the Project
17 site through a 13-mile pipeline. Plan at 33. For the large majority of these water rights, Ioneer has
18 not filed the required permit applications with the Nevada State Engineer to change the manner
19 and place of use, and thus does not have a legal right to use the water. *See id.*

20 177. Ioneer has not requested a FLPMA Title V Right-of-Way (ROW) from BLM for
21 the construction or operation of the water pipeline across public land. BLM’s Record of Decision
22 approved the Project without a ROW for the water pipeline. *See also* FEIS Appendix C (“Major
23 Permits and Approvals”) (showing that a ROW for the water pipeline was not submitted,
24 considered, or approved by BLM).

25 178. Several ancillary structures and facilities will be required to support the daily
26 operations of the mine. These facilities include: a dedicated mine maintenance shop with an
27 adjacent warehouse; emergency response vehicle bay; security building; administration building;

1 truck shop building including wash bay; an assay and metallurgical laboratory; autonomous truck
2 calibration sites; fencing; five communications towers; laydown yards; bulk fluids storage; and
3 fuel storage and distribution areas. Plan at 26.

4 179. As noted, the FEIS and ROD also authorize up to 35 acres of mining exploration
5 disturbance. “Exploration activities may consist of reverse circulation and core drilling from
6 constructed drill sites with single or double sumps, constructed roads, overland travel routes, bulk
7 sampling, geotechnical auger holes, and geological test pits.” BA at 3-9. Some exploration would
8 take place in Tiehm’s buckwheat critical habitat. *Id.* The FEIS, ROD and BiOp do not contain an
9 analysis of, or minimization or mitigation measures for, exploration impacts.

10 180. Reclamation and closure will begin in year 18, and conclude in year 23, except for
11 pollinator habitat reclamation in Tiehm’ buckwheat critical habitat, which is expected to take up
12 to 15 years. BA at 3-4. Apart from small, temporary, and “experimental” plots, pollinator habitat
13 reclamation would not begin until year 19, after mining operations cease. BA at 3-8, 3-9.

14 181. The operational phase of the Project may be extended if Ioneer discovers additional
15 recoverable mineral deposits. Plan at 9 (“Ioneer will continue to evaluate the potential to extend
16 the life-of-quarry beyond the currently planned operations as a result of planned exploration
17 activities”).

18 182. The Project facilities approved in the ROD would be located on 290 lode mining
19 claims and 10 placer mining claims, except for the lands to be utilized by the 13-mile water pipeline
20 and access corridor (which are not covered by any claims under the Mining Law).

21 183. As stated in the Appendix A to the Mine Plan:

22 Fifteen of the subject lode claims (SLB 110 through SLB 115, and SLB 121 through
23 SLB 129) and ten placer claims (SLP claims) are owned by Ioneer USA
24 Corporation (Ioneer); the remaining 275 subject claims are owned by Ioneer
25 Minerals Corporation. All claims owned by Ioneer Minerals Corporation and
26 Ioneer USA Corporation are considered to be part of the Project.

1 184. “Ioneer has also located and maintains mill site claims for the facilities relating to
2 the mining operations including the overburden storage facility, spent ore storage facility,
3 processing facility, and water ponds and diversions.” *Id.*

4 185. The mill site claims are located on the same land on which Ioneer USA and Ioneer
5 Minerals Corp. have located and maintained their lode and placer mining claims.

6 186. BLM has not determined whether the 290 lode mining claims, 10 placer mining
7 claims, and millsite claims covering the Project area are valid and meet all requirements under the
8 Mining Law, 30 U.S.C. §§ 21-54.

9 187. BLM approved the Project under its 43 C.F.R. Part 3809 regulations, which only
10 apply to “operations authorized by the [Mining Law] on public lands.” 43 C.F.R. § 3809.2(a).
11 However, BLM has not determined whether the various Project components (excepting initial
12 exploration activities), such as the mine pit, waste rock dumps, tailings, haul roads, access roads,
13 buildings, and storage facilities are located on valid mining and millsite claims, as required under
14 the Mining Law. BLM has therefore failed to determine whether these facilities are “authorized
15 by the mining laws.”

16 188. BLM reviewed and approved the Project under the belief that the Project was
17 “authorized by the mining laws” and did not subject the Project to the agency’s discretionary
18 authority under FLPMA and its implementing regulations (such as 43 C.F.R. Part 2920).

19 189. The two waste rock dumps (OSFs) and tailings facility (SOSF) will remain at the
20 site in perpetuity and will not be removed at the conclusion of operations and site reclamation.
21 Ioneer has no plans to remove those facilities. The FEIS and BiOp erroneously consider the
22 disturbance from these and other Mine facilities to be “temporary.”

23 190. Several mine components will be located within or adjacent to Tiehm’s
24 buckwheat’s critical habitat. The pit will be within critical habitat, 15 feet from subpopulation 3,
25 208 feet from subpopulation 5, and 558 feet from subpopulation 4. BiOp at 43. The “South OSF”
26 waste rock dump will also be within critical habitat and 165 from subpopulation 6b, 256 feet from
27 subpopulation 6a, 331 feet from subpopulation 5, 329 feet from subpopulation 4, and 492 feet from

1 subpopulation 7. BiOp at 43. The “North OSF” waste rock dump will be within 400 feet of critical
2 habitat. Approximately 2,755 feet and 10 acres of the haul road will occur within critical habitat,
3 BA at 3-13, and the haul road will run within 138 feet of subpopulation 3, BiOp at 43.
4 Approximately 3,008 feet and 6.5 acres of the Cave Springs Road realignment will occur within
5 critical habitat. BA at 3-14. One communication tower will be located 80 feet from critical habitat,
6 and the access road for communication tower 4 will run through critical habitat in close proximity
7 to subpopulations 1, 2, and 8. BA at 3-14. Six monitoring wells will be constructed within critical
8 habitat, BA at 3-15, as will dewatering wells, sumps, drains, and pipelines for dewatering
9 operations, *id.* at 3-15. The critical habitat areas not buried under waste rock or within the mine pit
10 will be surrounded and bisected by fencing. BA at 16. A 10-foot berm will be constructed between
11 the Cave Springs road and the haul road, and within critical habitat. *Id.* at 3-16. In total, this will
12 require the long-term elimination of 191 acres of critical habitat.

13 191. The BiOp does not assess, qualitatively or quantitatively, the impacts to Tiehm’s
14 buckwheat from the loss of 191 acres of adjacent pollinator habitat and the loss of PBFs previously
15 deemed essential for the species’ conservation. Rather, the BiOp postulates that the pollinator
16 habitat is not unique, or of “heightened importance for maintaining pollinator diversity,” BiOp at
17 52-53, and on that basis concludes that that the destruction of 191 acres of critical habitat will have
18 no appreciable impact on Tiehm’s buckwheat or the ecological processes it depends on. The BiOp
19 ignores information suggesting that pollinator habitat in the eastern portion of the designated
20 critical habitat, and pollinator habitat in the vicinity of subpopulation 6 (which would largely be
21 covered by waste rock) may be of heightened importance to the species’ conservation.

22 192. The BiOp fails to consider various indirect impacts to pollinators and pollinator
23 habitat from the Project, including but not limited to: dust deposition, invasive species, pollution
24 from herbicide application and dust suppression, subsidence, and habitat fragmentation.

25 193. The BiOp further assumes that pollinator habitat will be 100 percent successful,
26 even though a pollinator habitat reclamation plan has not been developed or evaluated, and
27 reclamation feasibility would depend on the results of unspecified experiments Ioneer intends to

1 conduct during the Project’s operational phase. *See, e.g.* BiOp at 56. The BiOp also ignores
2 scientific information indicating that Ioneer will not be able to replicate the native pollinator
3 habitat community, reclamation in desert environments is challenging with low rates of success,
4 and many of the proposed reclamation techniques are either novel and untested or ecologically
5 inappropriate.

6 194. Beyond the physical destruction of 191 acres of critical habitat, the mine will have
7 numerous indirect, but nevertheless significant, impacts on Tiehm’s buckwheat. These include
8 habitat fragmentation, impacts to pollinators, proliferation of invasive species, dust deposition,
9 changes in hydrology, and habitat loss from pit-wall instability and subsidence. *See Final Listing*
10 *Rule*, 87 Fed. Reg. at 77374-76; Fraga 2024a; Fraga 2024b. The Project will have many of the
11 same impacts, at similar magnitudes, to the 2022 Mine Plan, which FWS found presented an
12 existential threat when considered in combination with the environmental baseline. *See Final*
13 *Listing Rule*, 87 Fed. Reg. at 77382.

14 195. The Mine will also impact water resources—and the ecosystems dependent on
15 those water resources—within the Project area and across Fish Lake Valley. Dewatering from the
16 mine pit will lower the water table in the Project area by up to 300 feet, and create an area of
17 groundwater drawdown called a “cone of depression” that will extend for several miles. *See FEIS*
18 at 4-40. Any springs connected to the groundwater aquifer within the cone of depression will likely
19 suffer flow reductions or dry up entirely. *Id.* at 4-41. In addition to lowering the water table, mine
20 dewatering will also intercept groundwater that flows into Fish Lake Valley, potentially harming
21 groundwater-dependent wetlands. Tom Myers, Ph.D., Technical Memorandum re: Review of
22 Rhyolite Ridge Draft Environmental Impact Statement 2 (June 1, 2024) [hereinafter, “Myers
23 2024a”].

24 196. The FEIS hypothesizes about certain springs being “perched,” or separated from
25 the groundwater aquifer, *id.* at 4, but also states that mitigation measures will be developed to
26 address loss of springflow due to mining operations. *Id.* at 5; FEIS at 4-87. Although the FEIS
27 attempts to minimize the potential for impacts to surface water resources, it concedes that any such

1 impacts would be “permanent.” FEIS at 4-41. Further, the proposed mitigation measures are not
2 designed to preserve springflow or detect impacts before permanent harm occurs. *See* FEIS at 4-
3 87 to 4-88. As with many other resources, specific mitigation measures for water resources would
4 be included in a monitoring and mitigation plan that has not been drafted or presented for public
5 review. *See id.* at 4-87.

6 197. The Project could increase groundwater use in Fish Lake Valley, where the
7 groundwater supply is already over-appropriated and over-pumped. The Nevada State Engineer’s
8 office uses the concept of “perennial yield” to identify a level of groundwater pumping that will
9 not deplete the aquifer. The “perennial yield” of Fish Lake Valley is 30,000 acre-feet per year,
10 roughly equal to the amount the area receives in “recharge” from precipitation. *See* FEIS at 3-20.
11 However, this is probably an over-estimate, given that pumping at rates below 30,000 acre-feet
12 per year have already depleted the aquifer. Current average pumping in Fish Lake Valley is 29,700
13 acre-feet per year, based on the last five years of pumping records available at the Nevada Division
14 of Water Resources. (Myers 2024a at 7). This level of pumping has caused groundwater levels in
15 Fish Lake Valley to decline by up to 200 feet in over the last 50 years. FEIS at 3-21.

16 198. Existing water rights holders in Fish Lake Valley are authorized to pump a total of
17 51,004 acre-feet annually. FEIS at 3-21. This limit exceeds the average annual pumping level over
18 the five years by more than 21,000 acre-feet annually. *See id.*; Myers 2024a. It also exceeds Fish
19 Lake Valley’s estimated perennial yield by over 20,000 acre-feet annually. The difference between
20 authorized pumping and actual pumping shows that a significant amount of Fish Lake Valley water
21 rights are not currently in use.

22 199. If the water rights that Ioneer intends to acquire have not been used recently, then
23 Ioneer’s use would result in an increase in overall pumping. However, BLM and Ioneer did not
24 determine whether the water rights Ioneer intends to acquire are currently being used for irrigation
25 or other purposes, and thus failed to determine whether, and to what degree, the Project will
26 increase water use in this over-appropriated groundwater basin. *See, e.g.*, FEIS at 4-41 (“[A]nalysis
27 of pumping for water supply assumes the use of active water rights.”).

1 200. Between impacts from pit dewatering and impacts from pumping in Fish Lake
2 Valley, the Project presents a substantial risk to groundwater dependent ecosystems in Fish Lake
3 Valley, and the BLM-designated sensitive species that depend on those wetlands for habitat.

4 201. Water in the pit lake will exceed State water quality standards, with elevated
5 concentrations of arsenic, boron, fluoride, and molybdenum. FEIS at 4-42.

6 202. Road and vehicle traffic from the proposed mine, in addition to construction of the
7 pit, processing plant, waste rock dumps, tailings facility, haul roads, and access roads, would
8 increase non-native, invasive species, which are already established in Tiehm's buckwheat habitat
9 due to Ioneer's exploration projects. *See Final Listing Rule*, 87 Fed. Reg. at 77375-76.

10 203. The BiOp and FEIS fail to consider that invasive weeds are already prevalent
11 throughout the Tiehm's buckwheat's range and are likely adversely impacting the species. The
12 BiOp and FEIS also fail consider the likelihood that the Project's tremendous increase in surface
13 disturbance (over 2,000 acres in total), as well as increased vehicle traffic, will further accelerate
14 the invasion of non-native plant species and imperil Tiehm's buckwheat.

15 204. The FEIS and BiOp conclude that Tiehm's buckwheat will not be adversely
16 affected by invasive species because Ioneer will implement a "noxious weed monitoring and
17 control plan." *See, e.g.*, BiOp at 43; FEIS at 4-28. No weed monitoring or control plan has been
18 developed or released for public review. BLM and FWS failed to consider the effectiveness or
19 feasibility of the proposed weed-control and mitigation measures.

20 205. Dust deposition is known to have a significant impact on plant health and
21 abundance. The Final Listing Rule explains:

22 Dust deposition . . . negatively affects the physiological processes of plants
23 including photosynthesis, reproduction, transpiration, water use efficiency, leaf
24 hydraulic conductance, and stomatal disruption that impedes the ability of the
stomata to open and close effectively.

25 87 Fed. Reg. at 77375. The Final Listing Rule concludes that dust generated by the Project "would
26 likely negatively affect the overall health and physiological processes of the population." *Id.*

1 206. The Project would create numerous sources of fugitive dust, including but not
2 limited to pit blasting, pit excavation, waste rock loading and dumping, service roads, watering
3 trucks, and wind erosion.

4 207. The Project will likely generate 2,900 tons of particulate matter emissions per year,
5 with fugitive dust making up the vast majority of these emissions. McCarthy 2024a at 3. However,
6 as explained below, this is likely an underestimate.

7 208. The FEIS and BiOp rely on dust deposition modeling performed by Ioneer's
8 consultants to assert that dust deposition will not substantially affect Tiehm's buckwheat or the
9 quality of its critical habitat. However, the modeling provided by Ioneer underestimates total dust
10 deposition because it only models fugitive dust from one potential source—the haul road. BA at
11 3-3; McCarthy 2024a; McCarthy 2024b. The model ignores dust emissions from numerous other
12 significant sources, including pit blasting, pit excavation, waste rock loading and unloading, road
13 construction and realignment, service roads, water trucks, workforce transportation, materials and
14 products transportation, and wind erosion from the waste rock stockpiles. *See* BA at 3-3 ("This
15 analysis did not include other vehicular traffic from the work force, nor other sources of potential
16 particulate emissions from Action operations, only particulate emissions from the haul road and
17 haul truck traffic."); *see also* McCarthy 2024a at 3-4.

18 209. BLM and FWS failed to respond to McCarthy's (2024a, 20242b) analysis showing
19 that dust deposition from the Project was significantly under-estimated.

20 210. The BiOp, FEIS and Mine Plan set an arbitrary threshold of 4g/m²/day for dust
21 deposition, based on studies of a species with a vastly different physiology, life-cycle, and habitat.
22 BLM and FWS failed to consider or respond to Fraga's (2024a, 2024b) analysis showing that this
23 threshold did not have a reasonable scientific basis and more relevant studies were available.

24 211. Ioneer also performed an Air Quality Impact Analysis, but because this analysis
25 was designed to assess compliance with State and Federal ambient air quality standards, it "did
26 not include an analysis of impacts from potential deposition of [particular matter] from these
27 sources relative to Tiehm's buckwheat subpopulation and Tiehm's buckwheat designated critical

1 habitat.” BA at 3-4. The FEIS and BiOp supply no factual basis on which to conclude that ambient
2 air quality standards are an appropriate proxy for dust impacts to Tiehm’s buckwheat and its
3 critical habitat.

4 212. The BiOp acknowledges considerable uncertainty as to the nature and degree of
5 impacts from to dust deposition. *See, e.g.*, BiOp at 48 (stating that it is “difficult to estimate the
6 probability and magnitude” of dust impacts); *id.* (stating that FWS “cannot predict the extent of
7 dust exposure to pollinators”). However, the BiOp ultimately disregards this information and
8 concludes, based on the anticipated future development of a dust monitoring plan, that fugitive
9 dust will have no appreciable impact on the species and its critical habitat.

10 213. Ioneer and BLM also failed to consider impacts from the proposed dust mitigation
11 measures, including pollution from the herbicides and chemical dust suppressants, McCarthy
12 2024a at 4-9, and the acceleration of invasive species proliferation due to water application. *See*
13 Fraga 2024a, 2024b.

14 214. The FEIS fails to account for the tremendous water demands from Ioneer’s
15 proposed dust control measures. Ioneer has stated that it intends to achieve a “control efficiency”
16 for fugitive dust of up to 95 percent (however, this does not appear to be a requirement under the
17 2024 Mine Plan, FEIS, ROD, and BiOp). This would require 50,000 gallons of water per hour,
18 just for dust suppression on the haul road—it does not include the water that would be required for
19 dust suppression required for the quarry excavation, overburden storage, ore crushing, service
20 roads, or other dust-generating mine components.

21 215. As noted, dust-suppression water is not included in the Project’s total estimated
22 daily use of 2,500 gallons per minute/4,035 acre-feet per year, and achieving Ioneer’s dust-
23 suppression goals for just the haul road would add approximately 1,437 gallons per minute or
24 2,330 acre-feet per year to the Project’s total water demand. McCarthy 2024a. The FEIS and BiOp
25 ignore the impacts of this additional water consumption and application entirely. Ioneer and BLM
26 did not determine whether the proposed dust suppression measures are practicable or feasible given
27 the large volumes of water required. Nor did BLM and Ioneer consider other environmental

1 impacts from the proposed dust control measures, including structural impacts to the affected
2 roads, invasive species proliferation, and impacts to Tiehm's buckwheat critical habitat from water
3 application.

4 216. Mine-pit slope failures are incredibly common compared to other types of industrial
5 accidents, Emerman 2024a at 3, and under the North and South OSF alternative approved in the
6 ROD, Tiehm's buckwheat subpopulation 3 will be 15 feet from the edge of the pit. BiOp at 42.
7 Slope instability as a result of the Project therefore presents a short- and long-term threat to
8 Tiehm's buckwheat.

9 217. The FEIS, Biological Assessment, and BiOp assert that pit-wall instability poses
10 no appreciable risk to Tiehm's buckwheat because, according to reports produced by Ioneer's
11 consultants, the pit will be designed to meet a minimum factor of safety of 1.2. Plan at 14. The
12 FEIS, Biological Assessment, and BiOp do not explain what a factor of safety is, or why a factor
13 of safety of 1.20 was selected.³ Nor do they consider whether a Factor of Safety of 1.20 is adequate
14 to protect Tiehm's buckwheat over the long-term (*i.e.* 23 years of mining operations). BLM and
15 Ioneer did not provide data analysis to support the selected factor of safety.

16 218. BLM's slope stability analysis fails to support its conclusions with reliable
17 information, fails to divulge or consider uncertainty in the underlying geotechnical data, fails to
18 consider post-closure instability in the areas surrounding the pit, and does not consider how the
19 saturation of the pit wall from groundwater flow and/or the formation of the pit lake would impact
20 stability.

21 219. To address the potential for pit-wall failure, the BA, BiOp, FEIS, and Mine Plan
22 state that Ioneer will develop a "geotechnical slope monitoring plan" at some point in the future.
23

24
25
26 ³ Emerman (2024a) explains that a factor of safety is the ratio of resistance to load, and represents
27 the likelihood of structural failure. A factor of safety of 1.0 indicates a slope at the cusp of failure,
or 50% probability of failure. *Id.* The FEIS and BiOp do not disclose the likelihood of failure at a
factor of safety of 1.2.

1 *See* BiOp at 15; BA at 3-30; FEIS at 3-30. No geotechnical monitoring plan has been developed
2 or presented for public review.

3 220. The FEIS and BiOp fail to adequately consider adverse impacts to Tiehm's
4 buckwheat and other sensitive resources from ground subsidence. Dewatering can cause
5 subsidence as the groundwater that partially supports the overlying rock and soil layers is
6 removed. *See* BA at 8-21. The greatest effects on plant life from subsidence have been observed
7 on "sparsely vegetat[ed] areas," like the areas in which Tiehm's buckwheat and its occur pollinator
8 community. *See id.*

9 221. The FEIS and BiOp do not provide support for their conclusions that no or minimal
10 subsidence will occur. Supporting documentation for the DEIS and FEIS predicted up to 10 inches
11 of subsidence based on subsidence rates at other dewatering operations in Nevada. *See* FEIS at 4-
12 21. Further the BA cites and discusses studies showing adverse impacts to plant species from
13 subsidence, including effects to photosynthesis, soil chemistry, and overall plant health, but
14 arbitrary concludes that none of these studies are applicable to the Project. *See* BA at 8-21 to 8-23.
15 The BiOp reaches its "no or minimal impact" conclusion even though it admits that the "effects of
16 subsidence are not well studied" with respect to Tiehm's buckwheat, and FWS "cannot determine
17 how [Tiehm's buckwheat] critical habitat will respond" to the anticipated amount of subsidence.
18 BiOp at 62.

19 222. The BiOp fails to consider the effects of the project in combination with ongoing
20 threats that are part of the environmental baseline including but not limited to: (1) the species' low
21 population, highly restricted range, and specialized habitat requirements; (2) ongoing impacts from
22 herbivory; (3) and invasive species. The BiOp acknowledges the general principle that species
23 with small populations are more vulnerable to extirpation and extinction, BiOp at 32, but does not
24 apply this knowledge in its analysis of the effects of the action on Tiehm's buckwheat, *see id.* at
25 40-62. It does not consider the effects of the action, including habitat fragmentation, habitat
26 degradation, air pollution, and destruction of pollinator habitat in combination with the species'
27 already precarious baseline.

1 223. The BiOp fails to identify the conditions necessary for Tiehm's buckwheat's
2 survival and recovery. Although the BiOp acknowledges that the Project will increase numerous
3 threats to the species, including habitat fragmentation, invasive species, pollinator habitat
4 destruction, dust deposition, pit wall instability, and others, it fails to identify a point at which
5 these threats, either singularly or in combination, would jeopardize the survival and recovery of
6 Tiehm's buckwheat or adversely modify critical habitat. For example, the BiOp fails to: identify a
7 point at which habitat fragmentation would disrupt essential ecological processes; identify a point
8 at which invasive species would compromise the species' viability; identify a point at which
9 pollinator habitat destruction would impact the species' reproductive processes; identify a point at
10 which dust deposition would have adverse impacts on Tiehm's buckwheat individuals or pollinator
11 habitat; and supply a factual basis for its assertion that a factor of safety of 1.2 is sufficient to
12 protect Tiehm's buckwheat.

13 224. Except for a general statement that the Project will make on-site conservation more
14 difficult, the BiOp does not consider the Project's impacts on Tiehm's buckwheat recovery. The
15 BiOp arbitrary, capriciously, and unlawfully relies for its conclusion concerning recovery on an
16 experimental offsite propagation and translocation program that has not yet been developed. *See*
17 BiOp at 55. Nevertheless, the BiOp acknowledges that "it is unclear if the program will ultimately
18 be successful in in moving the species' status closer to recovery." BiOp at 55.

19 225. To purportedly minimize or mitigate adverse impacts to vegetation, groundwater,
20 wildlife habitat, ESA-listed species, and other resources, the FEIS, ROD, and BiOp rely on as-yet-
21 undefined future monitoring mitigation plans that will not be subject to public and agency review
22 under NEPA and FLPMA. For example, several documents regarding specific protocols and
23 procedures are detailed in the "Buckwheat Protection Plan" have yet to be developed or reviewed
24 and approved by BLM and FWS. These include:

25 ■ Geotechnical Slope Management and Monitoring Plan
26 ■ Native Seed Collection and Propagation Protocols
27 ■ Pollinator Habitat Reclamation Study Plan

- Pollinator Habitat Reclamation Plan
- Noxious and Invasive Weed Monitoring and Management Plan
- Light Monitoring Plan
- Dust Monitoring Plan
- Study to Refine Trigger Thresholds for Dust Deposition on Tiehm's Buckwheat
- Tiehm's Buckwheat Demographic and Recruitment Monitoring Protocols and Procedures
- Tiehm's Buckwheat Environmental Awareness Training Plan(s)
- Stormwater Management, Monitoring and Reporting Plan
- Critical Habitat Monitoring Plan
- Insect Visitor and Pollinator Monitoring Plan
- Noise Monitoring Plan

BA at 3-29 to 3-37.

226. The conservation, minimization, and mitigation measures cited in the FEIS and BiOp are overly generalized, vague, discretionary, unenforceable, not reasonably certain to occur, and frequently do not require BLM or Ioneer to take any specific conservation, minimization, or mitigation actions.

CLAIMS FOR RELIEF

First Claim for Relief: Violation of the ESA and APA; Arbitrary, Capricious, and Unlawful BiOp

227. Plaintiffs hereby incorporate by reference all preceding paragraphs.

228. FWS's September 4, 2024 BiOp for the Project is unlawful under the ESA, and Arbitrary and Capricious under the APA, for the following reasons:

- a. The BiOp fails to consider the Project's impacts in combination with the environmental baseline and status of Tiehm's buckwheat;
- b. The BiOp fails to utilize the best available scientific and commercial information;

- 1 c. The BiOp fails to identify conditions necessary for Tiehm's buckwheat's
- 2 survival and recovery;
- 3 d. The BiOp fails to consider or analyze the Project's impacts on Tiehm's
- 4 buckwheat's recovery;
- 5 e. The BiOp's jeopardy and adverse modification determinations rely on
- 6 conservation, minimization, and mitigation measures that are generalized,
- 7 vague, discretionary, insufficiently developed, not available for public or
- 8 agency review, unenforceable, and/or not reasonably certain to occur;
- 9 f. The BiOp arbitrarily and unreasonably makes its adverse modification
- 10 determination based on the same rationale as the jeopardy determination;
- 11 g. The BiOp fails to ensure that the Project will not jeopardize the continued
- 12 existence of Tiehm's buckwheat or adversely modify its critical habitat;
- 13 h. The BiOp fails to consider all relevant factors in making its jeopardy and
- 14 adverse modification determinations for Tiehm's buckwheat;
- 15 i. The BiOp fails to articulate a rational connection between the facts found
- 16 and the choices made in making its jeopardy and adverse modification
- 17 determinations for Tiehm's buckwheat.

18 229. FWS violated the ESA in preparing, issuing, and approving the 2020 BiOp. 16
 19 U.S.C. § 1536; 50 C.F.R. § 402.14. The 2020 BiOp is arbitrary, capricious, an abuse of discretion,
 20 not in accordance with the ESA, without observance of procedure required by law, and in excess
 21 of statutory jurisdiction, authority, or limitations, within the meaning of the judicial review
 22 provisions of the APA. 5 U.S.C. §§ 701-706. The 2020 BiOp should be held unlawful, vacated,
 23 set aside, and remanded to FWS. *Id.*

24 Second Claim for Relief: Violation of FLPMA and the APA; Failure to Prevent UUD

25 230. Plaintiffs hereby incorporate by reference all preceding paragraphs.

26 231. BLM's approval of the Project is unlawful under FLPMA, 43 U.S.C. §§ 1701 *et*
 27 *seq.*, and arbitrary and capricious under the APA because BLM failed to prevent unnecessary and

1 undue degradation of the public lands. 43 U.S.C. § 1732(b). Specifically, BLM failed to: prevent
 2 adverse impacts to Tiehm's buckwheat, an endangered species, and its habitat, 43 C.F.R. §
 3 6101.4(aa); *id.* § 3809.420(b)(7), failed to ensure that the Project complies with all applicable
 4 Federal and State environmental protection laws, 43 C.F.R. § 3809.5; 43 C.F.R. § 3809.420(b)(4);
 5 and failed to conduct an adequate analysis under NEPA.

6 232. BLM violated FLPMA in reviewing, issuing, and approving the FEIS and ROD. 43
 7 U.S.C. § 1732(b). The FEIS and ROD are arbitrary, capricious, an abuse of discretion, not in
 8 accordance with FLPMA, without observance of procedure required by law, and in excess of
 9 statutory jurisdiction, authority, or limitations, within the meaning of the judicial review provisions
 10 of the APA. 5 U.S.C. §§ 701-706. The FEIS and ROD should be held unlawful, set aside, vacated,
 11 and remanded to BLM. *Id.*

12 Third Claim for Relief: Violation of FLPMA; Failure to Permit Mine Operations Under the
 13 Correct Permitting Regime

14 233. Plaintiffs hereby incorporate by reference all preceding paragraphs.

15 234. BLM failed to issue a FLPMA-compliant right-of-way for the water pipeline and
 16 access corridor.

17 235. Instead of requiring a ROW (Special Use Permit) for the water supply pipeline, the
 18 agency relied upon its definition of "operations" in its Part 3809 mining regulations. 43 C.F.R.
 19 §3809.5. Yet water pipelines and other conveyances cannot be authorized by the plan of operations
 20 approval process, which only involve "operations authorized by the mining laws." 43 C.F.R.
 21 §3809.1(a). Approval of water pipelines is not governed by any right under the Mining Law.

22 236. The agency's decision to consider pipelines, etc. as mineral "operations" that it
 23 must approve under Part 3809 erroneously eliminates the agency's duties under FLPMA and
 24 creates statutory rights where none exist. BLM thus failed to apply the proper environmental and
 25 public interest reviews under FLPMA Title V and its implementing regulations.

26 237. BLM violated FLPMA in reviewing, issuing, and approving the FEIS and ROD.
 27 The FEIS and ROD are arbitrary, capricious, an abuse of discretion, not in accordance with

1 FLPMA, without observance of procedure required by law, and in excess of statutory jurisdiction,
 2 authority, or limitations, within the meaning of the judicial review provisions of the APA. 5 U.S.C.
 3 §§ 701-706. The FEIS and ROD should be held unlawful, set aside, vacated, and remanded to
 4 BLM. *Id.*

5 Fourth Claim for Relief: Violation of FLPMA; Violation of Governing RMP

6 238. Plaintiffs hereby incorporate by reference all preceding paragraphs.

7 239. The ROD, FEIS and Project approvals violate the Tonopah RMP's special status
 8 species requirements and FLPMA.

9 240. BLM failed to ensure that the Project complies with the Tonopah RMP. Instead,
 10 BLM based its review and approval of the Project on an erroneous legal assumption that Ioneer
 11 had statutory rights to conduct all of their proposed operations, including the permanent use and
 12 occupation of public lands for the mine pit, waste rock and tailings dumps, without the necessary
 13 factual evidence to support the establishment of those rights, thus failing to properly review and
 14 regulate the Project under FLPMA to protect public resources and the public interest, in violation
 15 of FLPMA and its implementing regulations.

16 241. BLM violated FLPMA in reviewing, issuing, and approving the FEIS and ROD.
 17 The FEIS and ROD are arbitrary, capricious, an abuse of discretion, not in accordance with
 18 FLPMA, without observance of procedure required by law, and in excess of statutory jurisdiction,
 19 authority, or limitations, within the meaning of the judicial review provisions of the APA. 5 U.S.C.
 20 §§ 701-706. The FEIS and ROD should be held unlawful, set aside, vacated, and remanded to
 21 BLM. *Id.*

22 Fifth Claim for Relief: Violation of FLPMA and NEPA; Failure to Determine Whether Ioneer's
Mining and Millsite Claims are Valid and Failure to Properly Exercise Authority Over the
Project

24 242. Plaintiffs hereby incorporate by reference all preceding paragraphs.

25 243. BLM has not determined whether the 290 lode mining claims, 10 placer mining
 26 claims, and millsite claims covering the Project area are valid under the Mining Law, 30 U.S.C.
 27 §§ 22-42.

1 244. Without a determination that all mining and millsite claims used by the Project are
2 valid and meet all requirements under the Mining Law, activities conducted on these claims are
3 not “operations authorized by the mining laws” 43 C.F.R. §3809.1(a), and do not have any
4 statutory rights under the Mining Law.

5 245. BLM based its review and approval of the Project on an erroneous legal assumption
6 that Ioneer had statutory “valid existing rights” to conduct all of their proposed operations,
7 including the permanent use and occupation of public lands for the waste rock and tailings dumps,
8 without the necessary factual evidence to support the establishment of those rights, thus failing to
9 properly review and regulate the Project under FLPMA to protect public resources and the public
10 interest, in violation of FLPMA, NEPA, and their implementing regulations.

11 246. BLM violated FLPMA and NEPA in reviewing, issuing, and approving the FEIS
12 and ROD. The FEIS and ROD is arbitrary, capricious, an abuse of discretion, not in accordance
13 with FLPMA or NEPA, without observance of procedure required by law, and in excess of
14 statutory jurisdiction, authority, or limitations, within the meaning of the judicial review provisions
15 of the APA. 5 U.S.C. §§ 701-706. The FEIS and ROD should be held unlawful, set aside, vacated,
16 and remanded to BLM. *Id.*

17 Sixth Claim for Relief: Violation of NEPA and FLPMA; Failure to Adequately Analyze
18 Mitigation Measures and Their Effectiveness

19 247. Plaintiffs hereby incorporate by reference all preceding paragraphs.

20 248. In the ROD and FEIS, BLM failed to adequately and accurately analyze mitigation
21 measures, and the effectiveness of those measures, as required by NEPA and FLPMA.

22 249. BLM’s actions and omissions noted above regarding its review and approval of the
23 Project, violate NEPA, FLPMA and their implementing regulations. The FEIS and ROD are
24 arbitrary, capricious, an abuse of discretion, not in accordance with FLPMA or NEPA, without
25 observance of procedure required by law, and in excess of statutory jurisdiction, authority, or
26 limitations, within the meaning of the judicial review provisions of the APA. 5 U.S.C. §§ 701-706.
27 The FEIS and ROD should be held unlawful, set aside, vacated, and remanded to BLM. *Id.*

Seventh Claim for Relief: Violation of NEPA and FLPMA; Failure to Adequately Analyze Direct, Indirect, and Cumulative Impacts.

250. Plaintiffs hereby incorporate by reference all preceding paragraphs.

251. In the FEIS and ROD, BLM failed to take the required “hard look” at the Project and its impacts, and failed to adequately and accurately analyze the Project’s direct, indirect and cumulative impacts to threatened and endangered species, sensitive species, other wildlife, air and water resources, cultural resources, environmental justice, and all other potentially affected resources, as required by NEPA and FLPMA.

252. The FEIS and ROD also failed to “state how alternatives considered in them and decisions based on them will or will not achieve the requirements of sections 101 and 102(1) of NEPA,” NEPA implementing regulations, and “other environmental laws and policies.” 40 C.F.R. §1502.2(d).

253. BLM's actions and omissions noted above regarding its review and approval of the Project violate NEPA, FLPMA, and their implementing regulations. The FEIS and ROD are arbitrary, capricious, an abuse of discretion, not in accordance with NEPA or FLPMA, without observance of procedure required by law, and in excess of statutory jurisdiction, authority, or limitations, within the meaning of the judicial review provisions of the APA. 5 U.S.C. §§ 701-706. 5 U.S.C. § 706(2)(A). The FEIS and ROD should be held unlawful, set aside, vacated, and remanded to BLM. *Id.*

Eighth Claim for Relief: Violation of NEPA and FLPMA; Failure to Analyze Background/Baseline Conditions.

254. Plaintiffs hereby incorporate by reference all preceding paragraphs.

255. In the FEIS and ROD, BLM failed to adequately and accurately analyze the background/baseline conditions of resources that will be potentially affected by the Project, including but not limited to: threatened and endangered species, sensitive species, other wildlife, water quality, water quantity, and air quality, as required by NEPA and FLPMA.

256. BLM's actions and omissions noted above regarding its review and approval of the Project, violate NEPA, FLPMA, and their implementing regulations. The FEIS and ROD are

1 arbitrary, capricious, an abuse of discretion, not in accordance with NEPA or FLPMA, without
2 observance of procedure required by law, and in excess of statutory jurisdiction, authority, or
3 limitations, within the meaning of the judicial review provisions of the APA. 5 U.S.C. §§ 701-706.
4 The FEIS and ROD should be held unlawful, set aside, vacated, and remanded to BLM. *Id.*

5 **PRAYER FOR RELIEF**

6 WHEREFORE, Plaintiffs respectfully request that this Court:

7 A. Declare that FWS's September 4, 2024 BiOp is arbitrary, capricious, and contrary
8 to the ESA;

9 B. Declare that BLM's actions, omissions, and decisions in reviewing and approving
10 the Rhyolite Ridge Project (including the mine and exploration projects) and related actions violate
11 NEPA, FLPMA, and their implementing regulations;

12 C. Pursuant to the APA, vacate the ROD, BiOp, FEIS, and Project approvals;

13 D. Enjoin any further implementation of the Project;

14 E. Award to Plaintiffs their costs, expenses, expert witness fees, and reasonable
15 attorney fees pursuant to the Equal Access to Justice Act, 28 U.S.C. § 2412; and

16 F. Grant Plaintiffs such further relief as may be just, proper, and equitable.

21 Dated October 31, 2024

Respectfully submitted,

22 */s/ Scott Lake*

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(pro hac vice application to be submitted)

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